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GEORGE WOOD CLAPP, D.D.S., Editor

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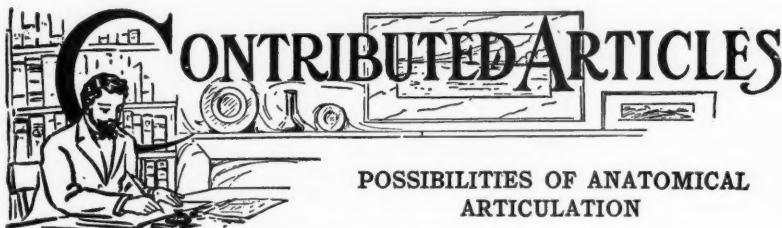
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Vol. XXI

NOVEMBER, 1915

No. 11



POSSIBILITIES OF ANATOMICAL ARTICULATION

BY F. W. HERGERT, D.D.S., SEATTLE, WASH.

This article was awarded first prize in The Prosthetic Articles Contest

In September, 1913, it was my privilege and pleasure to attend the Gysi School of Articulation in New York City.

The case which I wish to offer for your consideration is one which shows the great possibilities of Gysi Articulation.

Figures Nos. 1, 2, 3, and 4 show the case as presented. No. 1, shows a front view. No. 2, a view of the left side. No. 3, a view of the right side, and No. 4, a view of the occlusal surfaces. The upper denture was a vulcanite, which had good occlusion but no articulation. There was a gold foil operation in the mesial surface of the upper left lateral incisor, and a gold crown on the upper right first bicuspid. The teeth were either the Twentieth Century or Dentsply Anatomical Moulds. The patient had worn an upper denture for years and the ridge was very spongy.

The lower case as presented was as follows:—on the left side the first molar was missing and replaced by an all gold bridge with the dummy pressed into the gum tissue. On the right side the second bicuspid and first molar were missing and replaced by an old gold bridge with one

large dummy supplanting the missing bicuspid and molar. This was also embedded in the gum tissue. The second molar, as you will notice in No. 3, had an alveolar abscess on the distal root. The lower right third molar had also been crowned with a gold shell crown. You will notice,

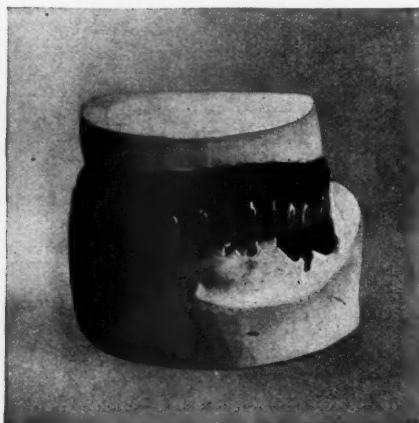


Fig. No. 1. Front view of case

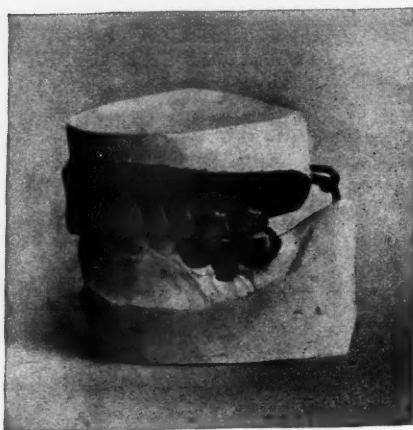


Fig. No. 2. View of left side

please, in No. 4, that these crowns, and the dummies which were hollow, had all been worn through by the porcelain teeth on the denture above. The remaining teeth had all been worn down either by the same means or ground to fit upper denture, until very little of them remained. The two lower central incisors had been crowned with Twentieth Century Porce-

lain Crowns, the left one having an acolite base. In the lower right lateral the pulp was putrescent and the remaining teeth, as No. 4 shows, were affected by caries. There was a gold foil operation in the labial-gingival surface of both the lower cuspids. Notice, please, in No. 1, the

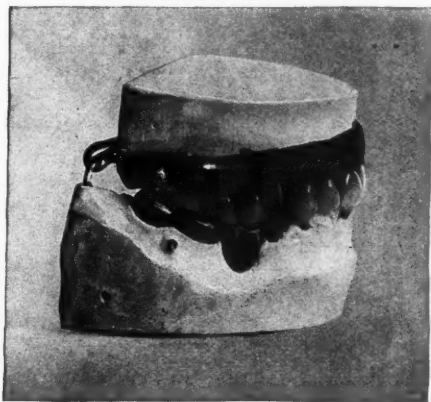


Fig. No. 3. View of the right side

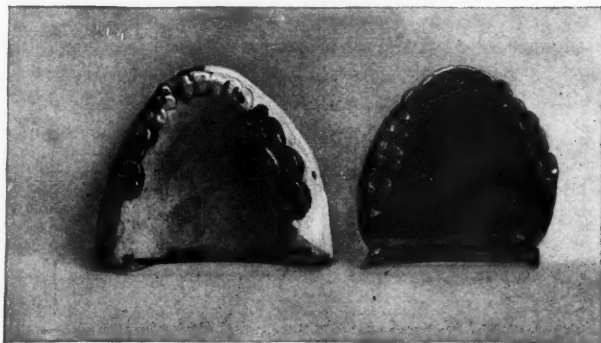


Fig. No. 4. View of the occlusal surface

space between the lower left lateral and cuspid due to the loss of the lower left first molar.

Figure No. 5, is of the impression for the new upper gold denture. This was taken with Perfection Modelling Compound after the technique of Dr. Greene. Very thin plaster was added as a final to copy the fine lines and much to my astonishment the palatal portion was covered with little spines which have been darkened with ink. Examination showed the tissue in that portion of the vault practically smooth, but upon separ-

ating by placing a finger on each side of the vault and stretching it laterally it was found to be full of minute cracks. This shows that the impression was taken under pressure and was accomplished, as picture No. 6, will show, by allowing the occlusal surfaces of the lower teeth to embed themselves in the compound of the under surface of the impression.

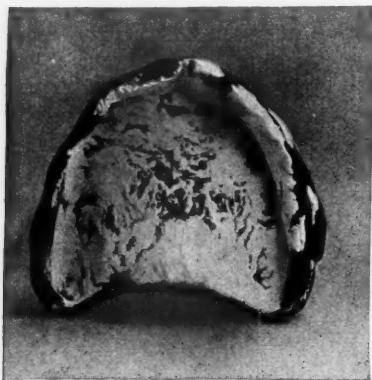


Fig. No. 5. The impression for the new upper gold denture



Fig. No. 6. Showing that the impression was taken under pressure

Figure No. 7, shows the Dr. C. A. Holmes' device for obtaining a metal die direct from the impression, "A" is the cast iron head to which the metal die is attached. "B" shows the compound impression mounted on the head with plaster and ready to be poured with fusible metal which melts in boiling water. "C" shows a heavy casting with the well filled with soap as a counter die.

Figure No. 8, shows the die and the sectional swaged gold denture. The palatal portion was swaged of 20 carat 24 gauge gold plate, and the buccal portion was swaged of 22 carat 30 gauge gold plate and then soldered together and reswaged and the die melted out in boiling water.

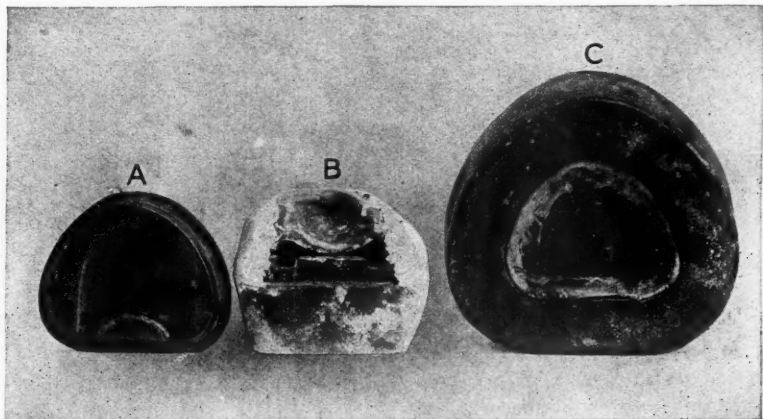


Fig. No. 7. Dr. C. A. Holmes' device for obtaining a metal die direct from the impression

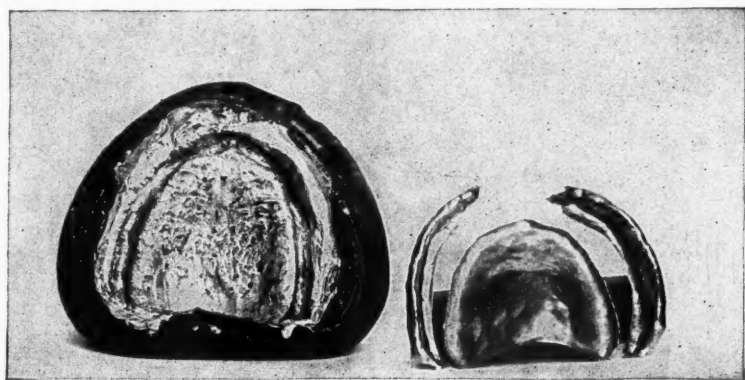


Fig. No. 8. Shows the die and sectional swaged gold denture

You will notice that the rim of the plate is turned, thus reproducing the "very-edge" of the muscle trimmed impression. A gold wire was then soldered to the base to make a finish for the vulcanite on the palatal side. It was also carried around under the turned rim on the buccal and labial sides to give rigidity to that portion of the base.

The crowns and bridges were removed from the lower teeth, abscesses

treated and the remaining pulps devitalized and pulp canals filled. What remained of the crowns of the teeth were cut off to the gum line. The

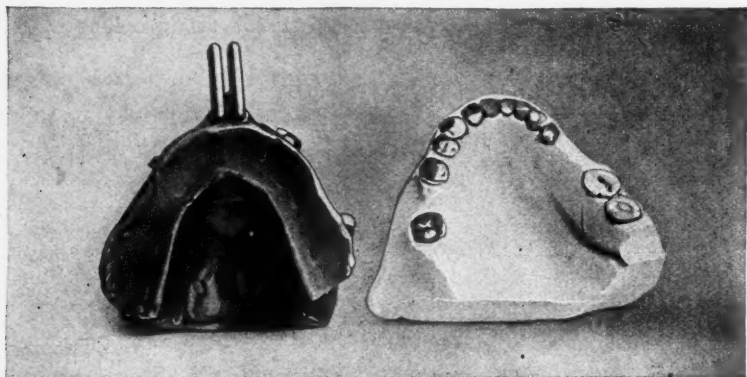


Fig. No. 9. The horseshoe plate and the upper gold base and lower gutta-percha base after measurements had been taken

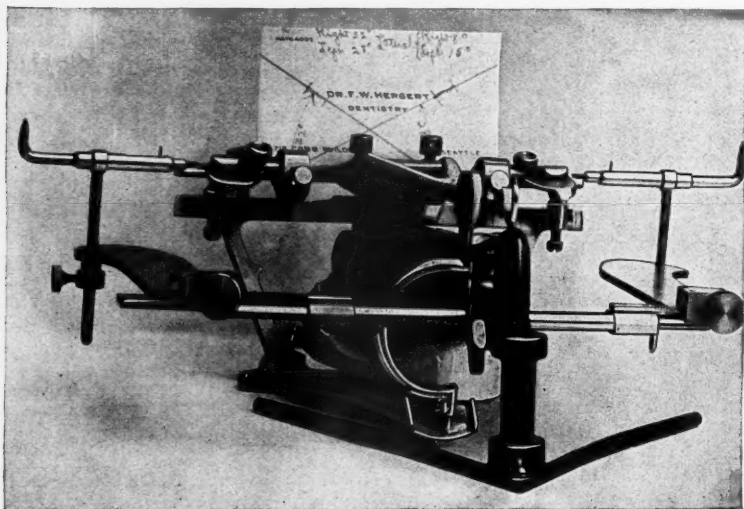


Fig. No. 10. The case ready to be mounted on the Gysi Adaptable Articulator

remaining enamel was removed with Dr. Forrest H. Orton's scalers and bases and coping constructed for each tooth as No. 9, will show.

From this point on, the case was treated as an upper and lower Gysi denture case. A base of Dentsply gutta-percha base plate was made for the lower, and the occlusal plane established for both upper and lower.

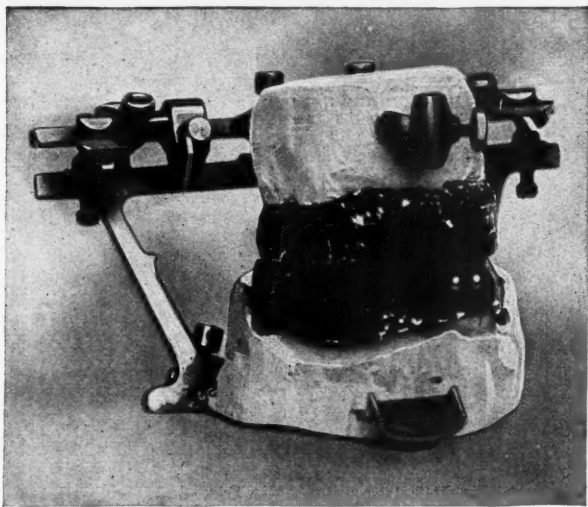


Fig. No. 11. The case mounted and ready to begin the setting of the teeth

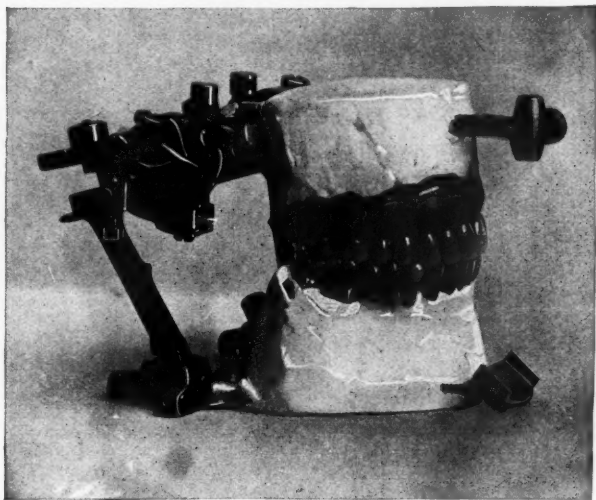


Fig. No. 12. The completed case on the right side

Figure No. 9 shows the horseshoe plate and the upper gold base and the lower gutta-percha base after the measurements had been made.

Figure No. 10, shows the case ready to be mounted on the Gysi Adaptable Articulator. You will notice that the right side shows a downward slope of the glenoid fossa of 32 degrees and the left side, 28 degrees. The

lateral slope on the right side was 8 degrees and on the left, it was 15 degrees. The rotation point on the right side was at 10, and on the left, at 8.

Figure No. 11, shows the case mounted and ready to begin the setting of the teeth.

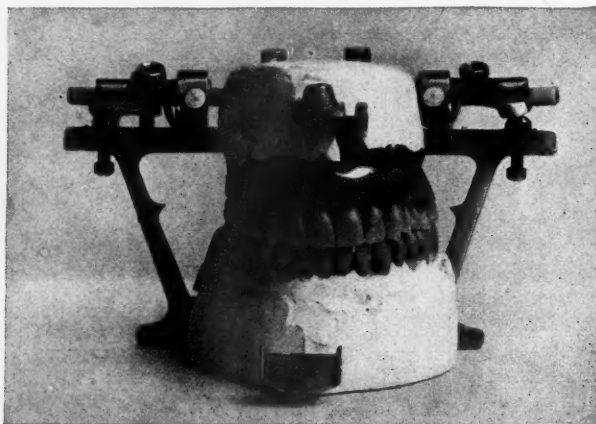


Fig. No. 13. Shows the front view of completed case

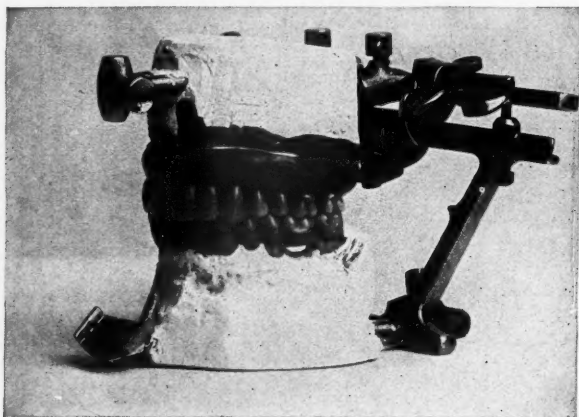


Fig. No. 14. Shows the completed case on left side

Trubyte teeth were selected for the case from the measurements on the trial plates. The upper teeth were set to the established occlusal plane of the lower. The Trubyte diatoric bicuspid and molars of the lower set were now converted into bridge teeth after the plan of Dr. W. G.

Alexander, and each fastened to its respective base as shown in figure No. 9, thus establishing the lower occlusal plane in porcelain. For the lower incisors and cuspids Goslee Crowns were used. The lower case was made into three bridges extending on the right side from third molar to first bicuspid. Then from cuspid to cuspid, and the left side from first

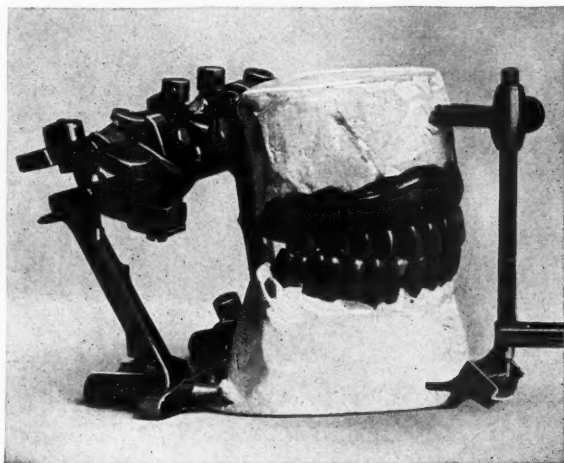


Fig. No. 15 shows the right side in working bite

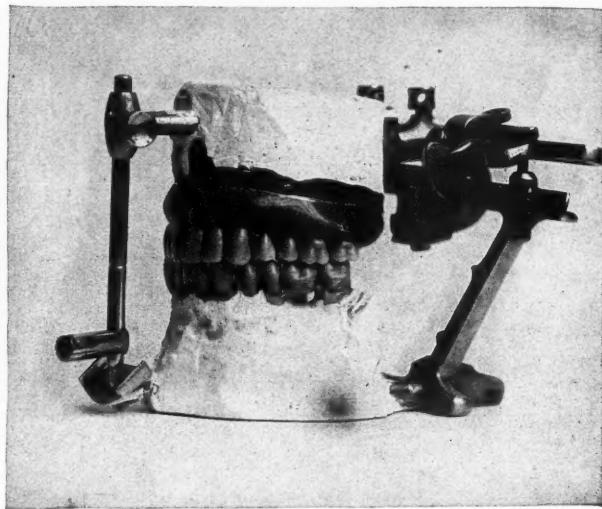


Fig. No. 16 shows the balancing bite on the left side

bicuspid to second molar. This work was all done from the Gysi Adaptable Articulator, and when the bridges were completed they were placed in the mouth and the upper gold denture, with the teeth set in wax, was

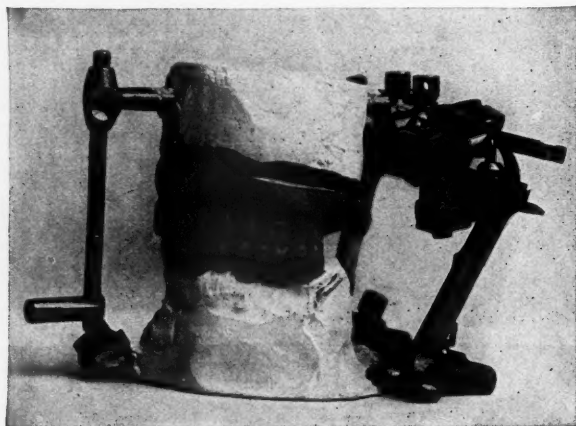


Fig. No. 17 shows the left side in working bite

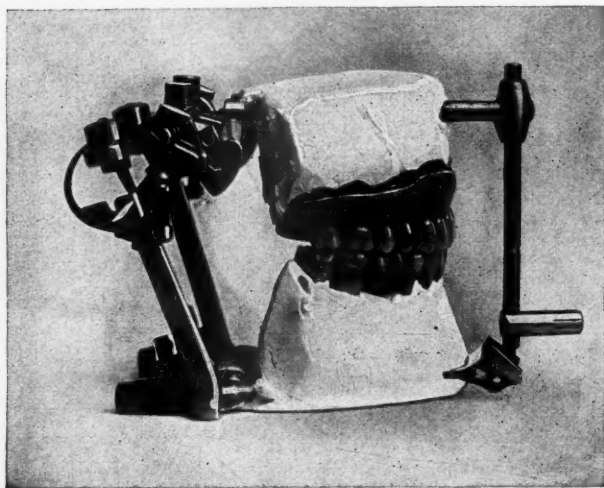


Fig. No. 18 shows the balancing bite on the right side

tried in and found to be exactly the same as on the Articulator. The upper right first bicuspid was reproduced in gold by the cuttlefish method, and a cavity was cut in the mesial surface of the upper left lateral incisor

and gold cast direct into the cavity of the porcelain tooth. The teeth were vulcanized onto the gold base and the finished denture replaced on the Articulator. The working model of the lower was removed and a new impression of the lower was taken with the bridges in place. The

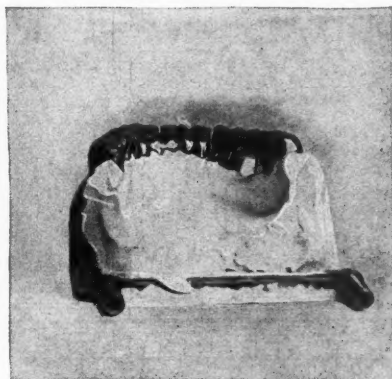


Fig. No. 19. The lingual surface of the finished bridgework of the lower

model was then poured and the teeth of the lower were placed into the proper occlusion with the upper and the lower model fastened to the Articulator. The teeth of both the upper and lower were now ground with powdered carborundum and glycerine.

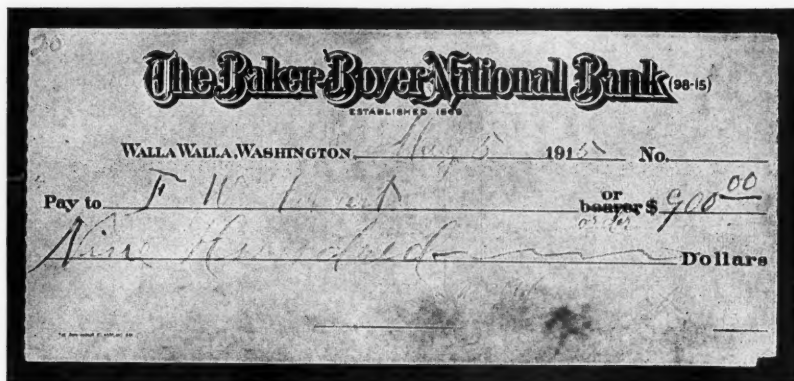


Fig. No. 20. The above shows the check of the grateful patient

MASTICATING EFFICIENCY IN NATURAL AND ARTIFICIAL TEETH

BY ALFRED GYSI, D.D.S., ZURICH, SWITZERLAND

Professor at the Dental School of the University of Zurich

(LITERARY COLLABORATION BY GEORGE WOOD CLAPP, D.D.S.)

ARTICLE VIII

The first requisite in porcelain bicuspid and molars is that the occlusal surfaces shall be properly inclined toward the sagittal plane. During my first years of carving, I did not know this and I wondered why many efforts at tooth carving which should have been successful were partial failures. Finally I learned that the inclination of the occlusal surfaces toward the sagittal plane determined the depths of the two bites in lateral articulation. After many experiments, I determined which angle of inclination to the sagittal plane is most advantageous from all points of view. This angle has been employed in the carving of Trubyte Teeth. I believe this to be the first time this important engineering principle has been applied in the production of porcelain teeth.

The position of the longitudinal groove in each tooth and the proportions of the cusps which bound it, are engineering problems, which are carefully correlated to the movements of the teeth in articulation. They cannot be determined by chance or individual preference, but only by the most exact scientific process.

The general inclination of the occlusal surfaces, the height of the cusps and depth of the bite, and the location and width of the longitudinal groove having been determined by mathematical processes, based on the general slope of the surfaces and the mandibular movements, there remain only the carving of the buccal and lingual grooves and the other grooves which I call "the milling grooves" because they are essential to the formation of milling surfaces. The methods of determining each of these features are equally as exact as those employed in the formation of the larger surfaces, but are too long to describe here. Suffice it to say that personal preference and the traditions of the past have given way to the application of science. This is nothing less than a revolution of the methods of carving in general use.

A NEW PRINCIPLE OF EFFICIENCY

Masticating efficiency in bicuspid and molars is dependent on the proper articulation of many small surfaces. The greater the number of properly formed small surfaces in proper articulation, the greater the efficiency of the teeth. The fewer and broader the surfaces, the less efficient the teeth.

Natural teeth never masticate so well, or with the expenditure of so little force as when they have been worn just enough to secure proper articulation. The small surfaces are driven through and through the food. Their close adaption isolates the cells and crush their walls. Their sharp edges cut and re-cut the fibers. When the articulating surfaces are broad, the crushed food is not so readily cut up, cannot so quickly escape from between the teeth, and more force is required to force the broad surfaces through the food.

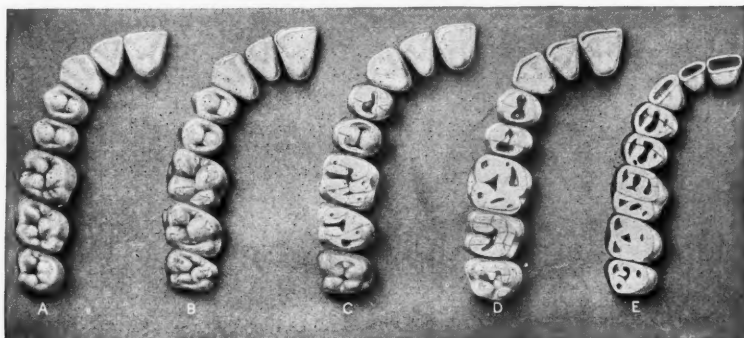


Fig. 51.—Five stages of wear in natural teeth. The newly erupted teeth shown at "A" masticate with the exercise of slight force. The different stages of wear require the exercise of different degrees of force. Teeth like those shown at "E" require the exercise of much greater force than artificial dentures can transmit. Trubyte Teeth exhibit forms like those shown at "B"

Broad surfaces in porcelain teeth could be made efficient only by the application of a force of which dentures are not capable.

Trubyte Teeth are the first porcelain teeth to exhibit proper articulation of small, correctly designed surfaces.

The detailed formation of the occlusal surfaces is merely the carrying out in finer detail of the scientific principles by which the general formation of the surfaces has been secured. It has three objects:

To put the finishing touches to the surfaces which determine the height of the bite.

To provide the many small articulation areas necessary to the tearing action of the bicuspid and the milling action of the molars.

To provide the sharp edges which must cut the fibres into small pieces.

The height of the bite in lateral articulation is determined by the articulation of the sides of the cusps of one set with the walls of the grooves of the opposing set. Each groove then must be given just the proper "lift" as it goes outward from the centre of the tooth toward the buccal or lingual margin.

The walls of the grooves are the sides of the cusps. They must be shaped so that when the teeth articulate, many small areas shall come into sliding contact, capable of isolating vegetable cells and crushing the walls.

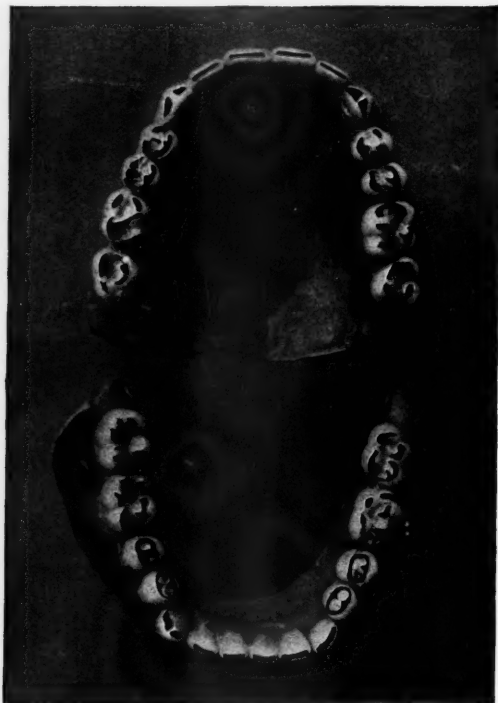


Fig. 52.—Photograph showing upper and lower dentures in a practical case after they had been ground by automatic articulation and the facets had been perfected on the cutting edges of the anterior teeth and formed on the occlusal surfaces of the bicuspid and molars by rubbing the sets together in lateral movements with a paste of carborundum and glycerine between them.

The facets indicate clearly what portions of each tooth are in articulation with the opposing tooth during movements to both sides. By far the larger portion of each surface never enters into articulation when the teeth are properly formed. The portions which articulate in a single lateral movement are relatively small, since it proved impossible to here separate the facets engaged in one movement only, and more than one facet is here shown in nearly every ground section.

While the margins of the facets are not sharp in the way a knife is, they are clearly differentiated from the rest of the tooth surface and are sharp enough to cut food when drawn across opposing facets.

Enough power can be transmitted through dentures to make teeth formed and articulated in this way effective in mastication, when the ordinary forms of teeth would be wholly ineffective.

The formation of these small articulating surfaces is made possible by a third series of grooves in occlusal surfaces which I have called "milling grooves" because they increase the number and decrease the area of surfaces and allow the crushed food to escape.

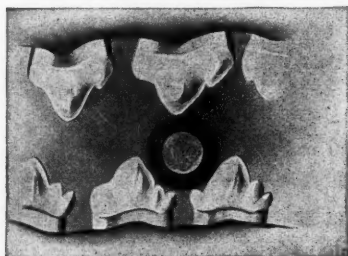


Fig. 53.—The bone cracking teeth of the dog

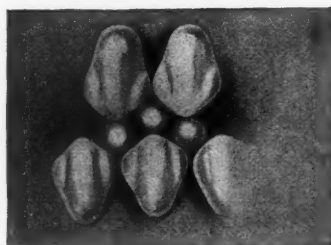


Fig. 54.—Similar cracking action by human bicusps

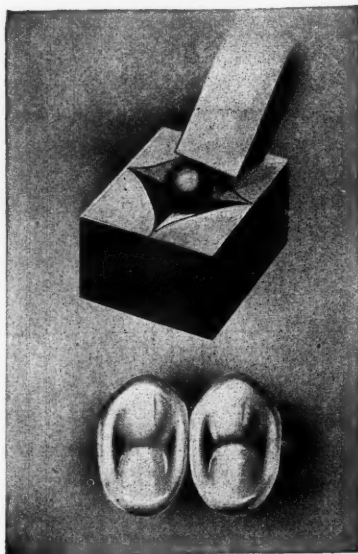


Fig. 55.—Diagrammatic representation of a grain trap. Same trap in Trubyte bicusps

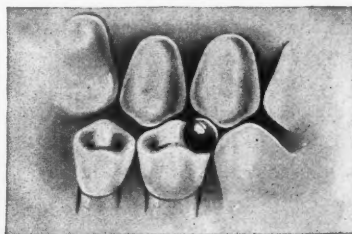


Fig. 56.—Lingual cusps open to receive seeds and grains.

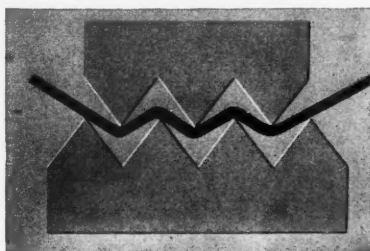


Fig. 57. Diagram of tearing action

The sharp edges for the cutting up of fibers are formed by correctly shaping the margins of the "milling grooves" and the buccal and lingual grooves as well. These edges are most important to porcelain teeth. They make the mastication of food possible with the limited force which

dentures resting on soft tissues can exert. I do not believe that porcelain teeth without them can be efficient in mastication.

I said in the beginning of this chapter that Trubyte Teeth differed from all other porcelain teeth in the fact that science has been applied to determine what has heretofore been the subject of personal opinion or preference. As I have worked over the formation of these surfaces seeking always the scientific application of nature's principles, I have become more and more convinced that this is the only method by which tooth surfaces can be properly formed. Even after all these years of experience and the carving of many hundreds of teeth, I cannot carve a tooth properly unless I do it in that certain way which permits me to see at each stage that the principles are correct.

THE BICUSPIDS AS TEARERS AND CRACKERS

The general formation of the occlusal surfaces of the bicuspid is as described in the foregoing paragraphs, but some special formations are made necessary by the sliding articulation of the upper and lower buccal cusps and the lifting articulation of the lingual cusps. These teeth exhibit both the small articulating surfaces and the sharp cutting edges, but they are formed rather for penetrating the food and separating fiber, than for the final mastication. These surfaces are given special forms also to harmonize with the peculiar articulation of the bicuspid which instead of being the long sliding movement of the molars, is more of a touch-and-go movement, in which the surfaces come into contact for an instant and then separate with a sort of lift.

The occlusal surfaces of the bicuspid are cunningly devised traps for catching and holding hard foods, even the little round grains that are so hard to crush. The triangular grooves fence the little hard grains in from escape in any direction. The articulation of the bicuspid is especially effective in crushing them.

Not only has nature made each bicuspid occlusal surface into a small grain trap, but she has arranged the surfaces of adjoining bicuspid to act as a trap for hard substances too large for a single tooth to hold, as shown in Illustration No. 55. This function is a direct descendant of the function by which the meat eating animals hold bones to be cracked.

THE MOLARS AS CUTTERS AND MILLSTONES

The fibres which were separated by the bicuspid have not yet been cut short, as they must be for swallowing. This cutting is the duty of the molars. It is accomplished by the proper articulation of the cuspal margins, as formed by the "milling grooves." If you remember the arrangement of the teeth in the pepper mill, you know that the "teeth" of the opposed wheels do not cross each other at right angles when in

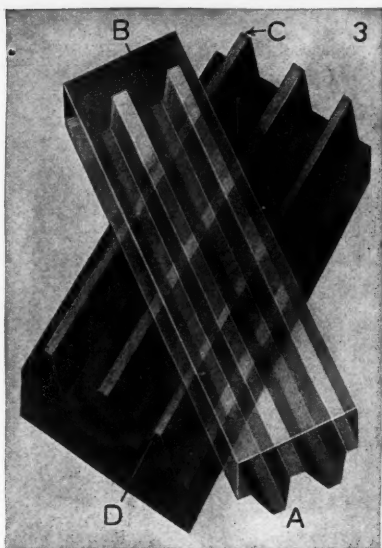


Fig. 58.—Diagrammatic illustration of the cutting action exhibited by opposed ridges and facets in Trubyte molars. If the point A of the upper block be carried to the point C of the lower block, and then the upper block be so moved as to bring the point B directly over the point D of the lower block, each of the opposed ridges will cut through its length with a drawing motion. This is the longest and most efficient "cut" possible to these ridges.

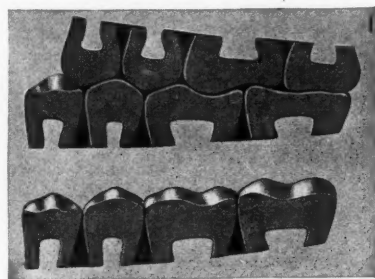


Fig. 60.—Diagrammatic representation of the plan on which artificial molars have generally been shaped in the past. The broad surfaces can not cut up foods to isolate the cells. They can be approximated only by the exercise of great force.



Fig. 59.—Food cells are isolated and the cell walls broken by the rubbing together of the facets. The rubbing action is diagrammatically shown by the mortar and pestle in which substances are pulverized.

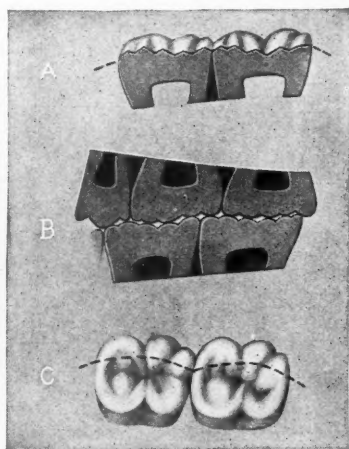


Fig. 61.—A. A cross section of Trubyte lower first and second molars showing five ridges in each tooth. B. Ridges and facets in Trubyte upper and lower molars opposed. C. The cross sections shown above were made at the dotted line in this figure.

action. Neither do they run parallel. They cross at an angle between these extremes of direction. This continues the cutting action throughout the length of each "tooth." The cutting edges of Trubyte molars are arranged on this principle. They are numerous, relatively sharp and so placed, one to the other, that each cuts throughout its length during lateral articulation. They effect a revolution of occlusal molar forms, no other teeth ever having exhibited them.

The milling action of the molars crush the cellulose walls of vegetable cells which can be reduced in no other way than between surfaces that run together for some distance under pressure. The cells are rolled and smashed and the contents exposed to the saliva.

When it is remembered that foods of such cells form about two thirds of the food of man, that the cell contents cannot be reached by the saliva until the cell walls are crushed and that this food cannot be digested elsewhere in the body if not properly insalivated, the great importance of such surface formation as can crush the cells is seen.

The results of all these details of formation may now be summed up in few words. They permit better articulation of Trubyte Teeth with each other and with natural teeth than has been known in the past. They carry the principles of balance and stability in dentures as far as it seems humanly possible to carry it. They tear and cut up fibrous foods, grind hard foods and crush the cell walls of vegetable foods better than any other porcelain teeth have ever done.

From the patient's point of view they are more comfortable and efficient than other porcelain teeth.

(This article is to be continued.)

APPLYING THE RUBBER DAM.—Doctor Van Woert, when placing the rubber dam for root canal work, first cleanses the immediate region thoroughly with an antiseptic soap. He then paints it thoroughly with tincture of iodine. He then lubricates the hole in the rubber dam with a little carbolized vaseline. This makes the placing of the dam and clamp a sterile or non-infectious procedure. This may seem unnecessary, but it is no more care than the surgeon takes in every operative procedure.—

Items of Interest.

POST-GRADUATE CLASS IN PROSTHETICS

Confident of the future of dentistry and in spite of adverse conditions prevailing, a group of men numbering sixteen presented themselves at the Royal College of Dental Surgeons on Monday, August 16th, for the purpose of enrolment in the two weeks' class in prosthetics organized by Dr. Cummer of Toronto.



The Post-graduate class in Prosthetics

The class was composed of Dr. J. H. Irwin of Collingwood (ex-president Ontario Dental Society), Dr. J. H. Dohan (of the faculty of Dentistry McGill University), Dr. W. J. Giles and Dr. W. E. Kennedy, all of Montreal; Drs. E. M. Doyle and H. G. Robb, both of Calgary; Dr. E. E. Hart of Sackville, N. S., Dr. F. A. McCullough of Troy, Ohio, U. S. A., Dr. F. E. Warriner of Winnipeg, Man., Drs. J. M. Cation, L. Gerald Smith, Toronto, Dr. O. S. Clappison, Hamilton, Dr. J. L. Anderson, Oakville, Dr. Herbert Irvine, Lindsay, Dr. M. McKay, Pembroke and Dr. L. G. Mabey of Goderich.

The work of the class consisted mainly in carrying out a practical case in the mouth using the Greene-Supplee method slightly modified, constructing Spence's plaster compound casts upon which aluminum bases

were cast by the indirect method and reswaged on the Ash press, the teeth being subsequently chosen and arranged after the methods of Williams and Gysi and mounted upon Gysi's latest articulator. Concurrent with this the class witnessed clinics covering the newest developments in removable-bridge-partial-dentures, manipulation of various of the new materials, processes, etc., covering all that is new and approved in prosthetic dentistry. Some interesting tests on the behavior of various plasters were made, on apparatus provided by various members of the class.

A comprehensive lecture on the fundamental subject of root canal fillings was delivered by Dean Webster. A particularly wide field was covered, including systemic effects of septic foci in the mouth, roots which should and should not be retained, various of the newer methods of root filling with practical demonstrations with the aid of the lady assistant, resulting in one of the most interesting and profitable hours spent by the class.

Dr. Wallace Seccombe's series of lectures on the subject of economics were intensely practical and of greatest interest covering as they did a particularly wide range of subjects for the short time at hand, including the general subject leading into the subject of dental economics. Methods of handling patients, valuation of service, economic production of service, office accounting and a number of other sub-heads. In this connection a number of city offices received visits from the class.

The fine set of models belonging to the prosthetic department of the Royal College Dental Surgeons was an object of continual interest and study on the part of the members. A pleasant feature of the class was an all-too-short visit from Dr. C. N. Johnston of Chicago.

The consensus of opinion among the members of the class pointed strongly toward appreciation and satisfaction in this form of an "economic" holiday.

IF NOT A TOOTHBRUSH, WHAT?

By A. E. ANDERSON, D.D.S., PEEKSKILL, N. Y.

Ever since reading the reprint of Dr. Feldman's article, "The Menace of the Tooth Brush" in the *Literary Digest*, I have had a strong desire to challenge some of his most prominent arguments. Now that the same thing has appeared in the DENTAL DIGEST, that desire has become too strong to be resisted and I wish to register a protest which I feel will be echoed by thousands of toothbrush users and advocates among the members of our profession.

There is no doubt that rough and improper use of an over-stiff brush can and does cause irritation of the gum tissue, and if used with a gritty dentifrice the teeth themselves will suffer as well. By the same token, injury can be inflicted by improper use of a towel or a poorly selected soap but I have not heard any one advocate dispensing with either of these necessities.

Granting what I doubt: i. e. that the average toothbrush (especially when used with the strong antiseptic mouth wash which Dr. Feldman decries) is a filthy germ carrier, are not the teeth germ carriers as well and is it plausible to expect that, in the thirty seconds occupied in brushing the teeth, these dried "germs" will have time to revive and do their deadly work before they are rinsed from the mouth along with millions of their brothers and cousins?

No one has claimed that the toothbrush reaches the inter-proximal spaces efficiently, but the statement that a bristle brush cannot be efficiently sterilized without ruining it is entirely without foundation. A two per cent. solution of formaldehyde will do the job in ten minutes.

It is quite true that a brush is used to clean floors and gutters and it is also true that a brush is used to clean surgical instruments and surgeon's hands before and after operating. As to the "Electric Vacuum Cleaner," it is a great boon to the housewife but I have yet to inspect the model that renders it possible or even advisable to dispense with the broom.

When the Doctor pleads for one method of cleaning teeth that would be advocated by every dentist, he must know that he is doomed to disappointment. He may just as sensibly demand that the wives of these dentists adopt a universal recipe for pie-crust!

It would seem that as between the silk floss and a metal strip for the patient's use, the choice is obviously in favor of the floss. It has been my experience that the average patient can be taught to use it skillfully and with most gratifying results, though I am thoroughly aware of the dangers of its improper or unskillful employment. Usually the great task is to get them to use anything between the teeth.

The Doctor "Concludes in plain words" but the meaning is obviously obscure. He advises us to eat the "right" kind of food in the "proper" way and suggests the savage as an example, when the study of the dental habits of some of these people reveals the fact that they not only did not have fine teeth, but that they filed them off with stones, stained the stumps black, gulped down their meat raw, or stews prepared from various vegetables masticated by the assembled company and cooked in a common vessel!

He also advises us to clean our teeth before going to bed thus: "Wash

the mouth with plain water, playing the lips and cheeks upon the tooth surfaces, finally gargling the water!" It would seem that the Doctor has reached a stage in his bacteriological research which few of us may hope to attain, because I, for one, am utterly at a loss to understand the mysterious virtue, as a gargle, of the germ laden water that has been used to wash the teeth.

We are further instructed as to several methods of using the "clean forefinger" as "Nature's own toothbrush." Does the Doctor mean a *boiled forefinger* or one that has been merely scrubbed with good soap and water and a *brush*? He must be aware that surgeons generally admit their inability to render the hands entirely sterile and hence have almost universally adopted the rubber glove.

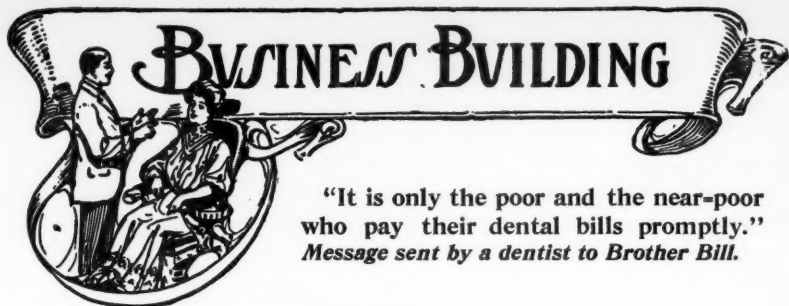
It is difficult to determine why the Doctor lays such emphasis on the cleansing of the *outer* surfaces of the teeth. If he will observe the lingual surfaces of the lower molars in the mouths of a dozen average patients. I venture to say he will find at least one set of teeth where this region is fully as much in need of cleansing as any outside the arch, and I further venture the opinion that after the patient has attempted to clean the teeth by using the forefinger covered with cotton gauze or rubber, the condition will be very little improved and the teeth will still be more or less covered with a creamy viscid substance, not entirely food debris, but a conglomeration of mucous cells in all stages of degeneration, mineral salts from the saliva, and dust particles from the air with their attendant bacteria.

This constitutes what may permissibly be called "muck" and the dentist who has a sincere desire to effect its removal has two alternatives: a toothbrush and dental floss now, or forceps later.

PANAMA PACIFIC DENTAL CONGRESS, 1915

The Panama Pacific Dental Congress has passed into history, and in accordance with the opinion very generally expressed by those in attendance, the meeting was a decided success.

The Pacific Dental Congress Commission of 1915, the Corporation now in charge of all matters relating to the Congress, and the publication of the transactions, desires to announce that a copy of the complete transactions, when published, and a copy of the official souvenir programme, will be sent to any one making application therefor to the Secretary of the Commission, Dr. Arthur M. Flood, 240 Stockton St., San Francisco, Cal., and forwarding the fee of ten dollars.



"It is only the poor and the near-poor
who pay their dental bills promptly."
Message sent by a dentist to Brother Bill.

A COMPENSATION FOR OLD AGE

By W. J. HOLROYD, D.D.S., PITTSBURGH, PA.

I have before me a letter from a dentist, who has been in practice for 34 years, and in this letter he says. "Someone should be employed to tour this country, with a scathing lecture to dentists on a subject like the following:—'How to attain peace and independence for one's old age, not because of it, but in spite of the fact that he is a dentist.'" Also, he goes on to say that the reason he is able to retire comfortably is because, "he never has, at any time, held his services in disrespect." Has always known the value of them and made his patients appreciate services rendered.

How different the table would be, were we all able to say that! In facing these different problems, the majority of dentists do not think for themselves and to make matters worse, do not pay any attention to the men who are thinking for them. Letters from men who are working and helping along these lines say that it is the hardest thing to interest the dentists in their own behalf. The matter could be rectified in a very short time if the dentists would only get together in a concerted manner.

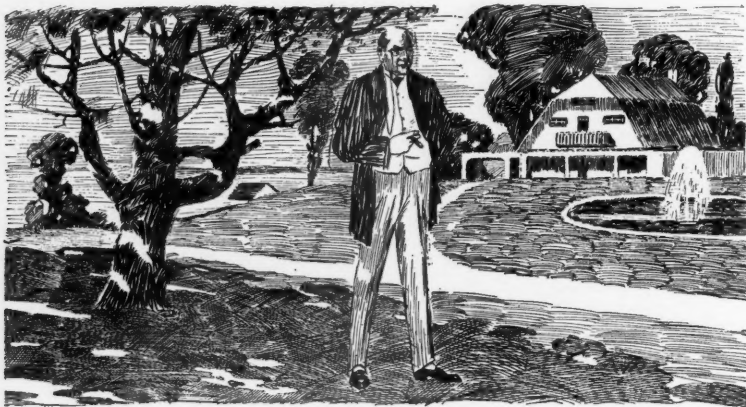
The average man who takes up dentistry does not understand the enormity of this question of a compensation and is not long headed enough to comprehend its full significance, and because human nature is lazy and would not work unless it has to, keeps on putting this phase of the profession off from time to time, with the resultant chaos.

AN ANALYSIS OF THE CAUSES

Dental students are culled from the ranks of the middle classes. Mechanics, clerks, a school master or two, farmers, artisans, bookkeepers, etc. We have not 1 per cent. of college bred men in the ranks. Once in a while a dentist will have a B. A. or B. Sc. attached to his name, but you will admit this is the exception and not the rule. Now these men, before they entered dental college, had no conception of how to conduct a business. When they did work before starting to college, they were generally so young that it was in a subordinate position, with all the

responsibility on older heads, since it is about the age of 21 years before a young man thinks about studying a profession (making, as statistics show, the average graduating age).

If he dealt in figures at all, it was not in the capacity of *cost keeping* or *applying overhead*, but rather keeping tab on the ingoing and outgoing of goods. If in other lines, all he thought about was the turning out of sufficient work to justify his employer giving him his wage. So you see, no matter how you take it, the dental student is in no wise fitted to take up conducting the business side of the profession from his *early* training. If he appealed to his father for assistance, and his father happened to be



The reason he is able to retire comfortably is because "he never has, at any time, held his services in disrespect"

a business man, he would often put his son off with the remark "I don't know anything about dentistry, you will have to work those things out for yourself." The truth being that half the time the father was not applying the true fundamentals in his *own* business, therefore, he was not able to help the new graduate.

The position of the new graduate is rather pitiable when you come to think of it. We have *proved* he has received practically no business instruction, before, at or after college, or if he did receive a few lectures on the subject, those selfsame lectures would be a joke to a cost expert, being given half the time by a man who was not a good business man himself.

The student does not *have* to stand an examination on the subject of business and we all know how much attention a student pays to a subject that he is not examined in, that attention being practically nil. The result is, that when the student graduates the lasting effect of those

lectures are lost, especially so when they have been given to him in a general manner, with absolutely nothing in the concrete to apply.

Now, after this brief résumé of foregoing conditions, what have we when the young man graduates from college? We have a graduate, half trained. A man, we will grant, well informed on the theory of dentistry, but with absolutely no ideas of how to apply that theory in a business like manner to get him a living, let alone a compensation.

The college has not been fair to the student or those who are depending upon him for support. When matriculating, he assumes that the college is his Alma Mater—his mother and father in one, his guiding star, so to speak, presumably showing him what to do and how to do it, formulating his future, supposedly knowing better than he what is for his own good, and finally after all, leaving that half undone, that he should know thoroughly, viz., "The Applied Business End of Dentistry."

That poor student does not know what he has missed until about 8 years after he has been graduated, making him on an average 33 years of age, before he starts to realize that "something is wrong," that he is not saving any money and cannot. How gladly he would have given an extra \$100 on his college fees to have had a thorough grounding of how to apply his dental knowledge in a business way, so as to get him a living. Much does he bewail and grope around for a solution to his troubles.

As one dentist said, "we charged 25 cents for an amalgam filling at college, so thought if I charged 50 cents in my practice, it would be enough." Asked if he had never been taught at college what to charge, said that although his college was conceded to be one of the finest in the country, there had never been anything (he could apply) said on the subject of charges.

This is the universal trouble, and it is a foregone conclusion that the dental college, which first puts in a practical business course in its curriculum and compels its senior students to keep a set of books in a proper manner, during the last six months of the course, and have examinations on what is "overhead" and how to apply it, timing the operations and distributing the costs properly over each operation, will have the jump on all the other colleges, and everything else being equal, will command the most students.

Until this is done (and the colleges forestall this period of 8 years "waking up," which means in a class of 50, a tremendous waste of time and a Herculean job of uneducating the public what it has already been taught) the manufacturing interests will have to take up the work, which (although the colleges' task) they have already done. These, coupled with dental clubs, who study theory and business, with the help of some of the dental depôts, are gradually getting at a solution of the problem.

But it is mighty slow work and if the profession does not soon wake up and more *members* help, the *present members* will be dead before they reap the benefits.

To get back to the 33 years, at which age the graduate "wakes up." This gives him about 20 more years in which to get his compensation. And what is this compensation? How much should it be? Upon the opinion of conservative professional and business men, it should be \$30,000, which sum should have been saved at the age of 55 years, in order to enable you and yours to live. Thirty thousand dollars at 4 per cent. per annum yields \$1,200 a year net—\$100 a month, \$25 a week, and



"If the fellow up the street wants to do things without a profit, that does not mean that you should do likewise"

if you are a married man with from 1 to 3 children could you, as a professional man, live on less these days? It means that you would have to save \$1,400 a year for 22 years, outside and above your living expenses, estimating that you ought to have this compensation at 55 years.

By outlining the above, you will see that you have to study nights in order to understand how and what to charge for your work in order to get besides a living, a compensation for your old age.

He is a poor writer who criticizes and offers no remedy. Therefore, I will outline my ideas as to how to get at the matter.

In these present days all the manufacturers of any commodity co-operate instead of shun one another; they get together, on a business basis. Grocers, piano men, credit men, department store heads, railroad men and others all get together on a *business basis*. We dentists have our Odontological Society, but we only discuss one half of our subject—the theory end of it, not the business end. Did you ever think of this? We are making one operation pay for another.

The price asked for a good many pieces of work which we do is not proportioned right, and until you get at the heart of the thing you must co-operate. Jump in and build up instead of sitting back and criticizing. Work nights together until this is rectified, because until you get correct prices for your work, you can never get this compensation we are speaking about.

The dentist should belong primarily to his local dental Society, and if that society is too big for him to voice his ideas on any subject he should foster and belong to local study clubs, preferably all its members belonging to the main society. If such study clubs do not exist, the reader should not wait for one to be started, but form himself into a committee of one and visit his brother dentists locally and organize in order to study these matters.

Make what is called a 50-50 club—50 per cent. theory and 50 per cent. business which is the way all successful concerns are handled. Get business and credit men to give you lectures on business fundamentals and give you pointers on how to handle your practice. Fundamentals are the same in all businesses and dentistry is no exception.

Consider while studying yourself from a business standpoint that you are manufacturers, manufacturing bridges, plates, fillings, etc. Come down to earth and realize that only from this standpoint can this question be studied. Put all professional philanthropy aside, because you and yours have to eat. We are 25 years behind the times when it comes to conducting a business or practice, and no one with red blood in his veins wants to belong to any business that is behind the times. There is progress being made along these lines, but it is too slow and if more progress is not made the present members of the profession will not benefit.

As far as I can make out the dental profession is the last to change its prices, and it is only within the last 3 years that some of the more progressive ones have charged more for their work. You could make more in proportion 10 years ago, because your prices in relation to your expenses were more. Now your materials, rents, scale of conducting your practice is higher and the prices have not been raised proportionately, which is bad business. You know everything you buy now costs more than it did 10 years ago. Why don't you fall in line and make re-adjustments, in your own practice? Isn't that logic?

If the fellow up the street wants to do things without a profit, and die poor or has to be kept in his old age, that doesn't say you should do likewise. Sheep follow one another. Don't be a sheep. Mind and study your own business and when you get old your business will mind you. First learn how to do your work well—"deliver the goods," and

then proportion your prices fairly, so that one operation does not pay for another.

This requires study. To do it you will have to make a list of your operations and then time them, and get to know how many productive hours you work (which is only 1000 hours per year). Read all the business articles you can, follow Dr. Clapp's business articles in the DENTAL DIGEST. Also Dr. Kirby, of Chicago, and very soon you will find a change coming over you—an awakening up, so to speak, from a long sleep. I can only give you a general outline of what to do, the details are given in other articles. An article will be published upon each subject, taken in rotation.



"All successful business men you read about studied at night"

Successful business men study their business at night. No one ever made a success doing and thinking about their lifework only 8 hours a day. All the successful men you read about, after working during the day studied at night, otherwise you never would have read about them. And if you wish to make a success you must attend to these problems after you have worked your 7 or 8 hours at the office.

You can make the change gradually. Don't be discouraged. All things are not done in one day. They must have had former preparation. And keep the one thing in mind always—to provide for yourself a proper compensation—a living fund for your old age. *The whole thing hinges upon a proper knowledge of the right prices.*

To do your duty thoroughly, you must, as far as it is in your power, while you are saving, provide for those dependent upon you, in case you should die. We will say for instance—a dentist married and with two children—while he is doing his life work something

may happen to him in the meantime. So he must provide for it by life insurance.

Two or three thousand dollars worth of life insurance is not enough. Always estimate what your estate will bring at 4 per cent. per annum. Don't expect your wife to make investments at more than 4 per cent. If she does she will lose it. Figure savings bank percentage 4 per cent., no more. To leave an estate that will provide for three people and education for two of them, would take at least \$20,000 and if you haven't got it personally, you should carry it in life insurance. This looks a lot, I will admit, when you have been thinking in figures of one, two or three thousands, but the sooner you think the right way the better, because it is a cold fact and has to be faced.

A man has no right to marry and bring children into the world and not provide for them, in case he should die. We know it is done every day, but that does not make it right. Let the good wife read this and see what she has to say about it.

Insurance can be gotten so that you do not have to die to win, and this same policy can be used as a means to help you in forming that compensation I spoke about, should you live, and while you are saving the other surplus from your practice, the knowledge that you are carrying a substantial insurance policy will make you much easier in your mind. This is plain talk and meant to be.

If up to now you have not been working along these lines, change right away, your method of doing business. And the sooner you do it, the more you and yours will appreciate it in your old age, and you will look back on it when you are old and not dependent upon anyone, as one of the best things you ever did in your life.

2010 FIRST NATIONAL BANK BUILDING.

ARE YOU SPENDING TOO MUCH?

Any man with sense enough to go in when it rains knows whether his income warrants his present standard of living. If it does not, he should have the moral courage to cut down his expenses. It may be that he will have to move out of the house, and even out of the neighborhood where he has been living. He may have to give up pleasant associations. But be the sacrifices what they may, he will find that once made, they are by no means as great as his imagination had pictured them.

They will save him from years of infinitely greater sacrifice and humil-

iation. The man who makes this move in time will gain all that he gives up, and more, for he will have the satisfaction of feeling solid ground under his feet, and of knowing that he is all that he pretends to be, and not a sham and a humbug. The question as to how much should be saved would require a different answer for each individual case. A table is presented here that will assist any one who will apply it to his own case.

Saving one dollar each year and keeping the whole amount saved at compound interest at 5 per cent. will produce:

\$13.21	in ten years
\$22.66	in fifteen years
\$34.72	in twenty years
\$50.11	in twenty-five years
\$69.76	in thirty years
\$94.84	in thirty-five years
\$126.84	in forty years

Using this table, it will be found that a person who will begin when twenty years of age and save only \$150 a year, will have \$5,208 at forty years of age, \$10,460 at fifty, and \$19,026 at sixty.

If a man of thirty who is earning \$2,500 a year will save \$1,000 each year, he will have \$13,210 at forty, \$34,720 at fifty, \$69,760 at sixty. This last amount invested at 5 per cent. will yield an annual income of \$3,488.

Put in another way, assuming a man's income to be constant, if he will save three dollars out of every ten and invest it at 5 per cent. in a little less than thirty years his savings will return to him at five per cent. an amount each year equal to his annual earnings, thus permitting him to retire and maintain a standard of living even better than that to which he has been accustomed.

One of the safest things in which to invest money is a real estate mortgage, provided the title of the property is clear and the demand for room for tenants is good and the rates satisfactory. Real estate to be really successful as an investment demands the careful attention of the owner. In Massachusetts, the savings banks afford the most convenient and satisfactory of all investments for the man of small savings. They pay four or five per cent. as a rule, and the savings bank laws are such as to make loss practically impossible.—*The Healthy Home.*

In life's small things be resolute and great
 To keep thy muscle trained: know'st thou when Fate
 Thy measure takes, or when she'll say to thee,
 "I find thee worthy; do this deed for me."

—LOWELL.

HOW AN ETHICAL DENTIST FELL FROM GRACE

BY T. S. B., NEW YORK

(Continued from October issue)

"Men are bad when it comes to giving up money for dentistry, but not a patch on the women." He repeated this over, and feeling some comment was called for, I remarked:

"The female is more deadly than the male."

"What's that," he asked.

"Something that Kipling says," I answered.

"I was once a child like you were with that woman and the handsome daughter," he resumed. "I would have spotted her by the crack she made over the other dentist."

Red-head flipped the ash gracefully from his segar. I felt I could learn much from Red-head, and begged he would proceed.

"You made a mess of it," he continued. "The way to have handled that bargain-hunter was to reply gently, 'Madam, you have my fee, and I never bargain.' Or 'Madam, my fee is all right, but may be too high for your pocket.' This would have led to argument; as it was, she had the chance to get away with your price, and pretend to be disgusted at your lack of back-bone. Another way to meet such a case, is, 'Madam if you will tell me how much you care to spend, it will simplify matters and save our time.'"

"I thought," I responded bitterly, "that when I went into a learned profession I should not have to dicker like a tradesman."

Red-head licked the stub of his segar with a long red tongue, and exclaimed, "Lord, how much it would have been worth for you to have been in an advertising office."

He confided to me that Dr. Muchmore was a "great bluff" and was quizzed and assayed like a fish-monger. Advertising men are trained by stress to meet the sundry and various wits of the dishonest and bargaining sort, for they need special education to withstand the tricks of the public which will succeed if the dentist is not wise as a detective. In college the adolescent is taught how to do for the public, but must lose much blood learning how to prevent the public doing him.

Red-head said, as we strolled back to the office of Dr. Muchmore, "I have experience, and you have money; let us open on the avenue."

I shuddered at the thought, and would have been glad to tell this confidant young Gascon what was my opinion, had it not been that I did not know where to go for enlightenment. In all that great city no ethical man would aid me; my visits had gained only chill return to advances,

and an apocryphal invitation that I call when they were not so "busy." The Bible says, "God must be sought." But He is far off, and a long journey amongst the stars. The devil is always near, and with a glad hand. This I thought as Red-head slouched at my side spinning a web how a joint could be opened on a shoestring.

Reaching the office of Dr. Muchmore, Red-head showed me into a side door of the laboratory, from which we could hear the doctor talking.

"Listen to the Doc," whispered Red-head.

An ordinary looking woman was dicking about her teeth. What would it cost to do all her mouth; what a part; how much for only the front? The doctor was suave in his replies, until the woman in confusion turned to her companion with the question "what would you do?"

I admired the doctor's self-control under this rough treating of his counsel as dishonest or little worth. They left, making room for two more. "Bargain hunters," commented Red-head.

The Doctor asked if the lady wanted work done *now*? She did not know. She fenced, determined not to say what she wanted, but quizzing him. The Doctor told her:

"Madam, it is using your time if you do not care to spend fifty dollars for bridge work, so if you tell me your limit I can advise what is best."

This being unanswerable, the woman confessed to twenty-five dollars.

"She can't raise ten for her life," murmured Red-Head.

"Why does she tell a falsehood?" I asked.

"It's their way," Red-head contemptuously replied.

The doctor made a bargain, getting a dollar, which was all—as alleged—she had. At this stage Red-head motioned to go through a side door into a reception room. This manœuvring was not to my mind, but I was so anxious to know how the doctor gained the confidence of his patients, that I would have stooped to more.

The next case did not bear out the doctor's claims, as the girl was very fixed, wanting to have only her front teeth filled, they being in evidence; for the back molars she cared nothing. It was the doctor who *deferred*, and he found she had only one dollar. Then he became very positive, as she was reluctant to hand it over, asking: "What have you done for me?" He explained "time, and advice," but she was like the great public, who will go to a physician, and pay for an examination of the tongue, but think a dentist has done little unless they see blood.

"Shall I pay him?" the woman asked turning to her friend. "I would not unless he did something for me," was the friend's counsel. But the doctor was adamant, and recorded payment in a red book, and gave a receipt, leaving me to have my turn.

The doctor did not recall me at first, and was evidently ignorant that I knew so much of his practice.

"Yes," he replied when I mentioned his remarks at the meeting, and my wish to learn his charm, "my patients defer to me; I educate them as to their wants. Here you see a book recording the advance payment of a patient." He patted the red book with the record of one dollar; "you see I have no trouble. In time you will learn to gain their confidence."

I did not spend much time listening to Dr. Muchmore talk, as I felt I had gained more knowledge from seeing him act. I realized he had the same trouble as myself, only he possessed experience how to meet conditions. Altogether I was pleased, and I learned from Red-head when he came to visit on a self-extended invitation, that Muchmore had once practised advertising, but now pursued the old tactics with the patronage he possessed. He was a member of the society, because he had a small sign, with no colored man at the door. To use Red-head's words, he had "turned his coat, but had not taken a bath."

Red-head again urged a short cut from starvation to a better future. His allurements had opportuneness as I had seen an office to rent on the main street; to escape his importunities I suggested he find out the rent. He did this, coming back with a report how he had obtained an option by paying a deposit.

He planned I should do the operating, and he give experience, with mechanical work. I was to put in the cash. I demurred on learning he had no money, but intended to make his end good out of future earnings which were to be half. After several interviews, he claimed he should not put in any money whatever, having *found the office*. This gave me a chance to withdraw from dealings with Red-head, who declared he had another man in view. Red-head came down from a patronising manner when I told him to accept the "other party" and confessed his man was straw. So I gave him a dollar—which I thought he had well earned—and dismissed him from my acquaintance.

Here I was with more knowledge about patients, but no outlook. Visits to better men than Muchmore, resulted in polite but chilling behavior, while the unethical were men with hearts. I heard of offices to sell, which turned out hopeless. In these hunts I met Dr. Fixum.

The office was on E. Ave., over a liquor saloon, having the usual allurements of electric signs, and bridge work. The entrance was squalid. The carpet in the hall appeared as if down since the rebellion. At the end of a dim hall was a faint light; on groping for the door handle a cow bell jangled, the door opened and revealed the inside. In a tiny laboratory sat a consumptive German with great goggles on myopic

eyes. The man was hard at work over a large piece of bridge work. On a shelf were partially completed sets of teeth. Finished plates were soaking in water. There was no delusion; the work was there; someone who could afford it came to this foul place for services.

Goggles told me Dr. Fixum would come in shortly, which he did largely, being an immense man with a prodigious head, and bright intelligent twinkling eyes.

Everything he did was impetuous. We started down the Avenue, saying that he knew the best place to dine in the world. We covered the first block, when a shabby man stopped Dr. Fixum. Then another darted out of a hall way, and in each case I saw Fixum place something in their hands. The last man Fixum seemed to be abusing, but their hands met. "These swine" he said in excuse, "are robbing me."

We reached a tiny French restaurant, where a little monkey waiter produced two bottles of wine. Fixum swallowed his glass at a gulp, and produced a manuscript. He first told me his reason for wanting to sell was, he needed the money to produce a play. It took but a page for me to sigh at the childish effort; I was relieved when dinner was over and glad to escape, promising to call on him the next day.

Goggles was in the laboratory on my arrival, hard at work. On being told to seek Fixum, I found him in his lodgings. He lay in bed apparently trying to get over his previous night's debauch. He was indifferent to want of dress, but solicitous that I hear more of the manuscript. I gathered that certain schemers were playing on his foible that he could write a play.

That night, at his office, up to nine o'clock I saw money roll in. He was a wonderful man to operate, and most charming to the patients, yet he wanted to sell the little mint. I offered to take the office on trial, paying a bonus, but he would not consent.

Fixum was a grand contractor. I saw him make a deal for a full upper bridge, cost, three hundred and fifty. He received one hundred dollars deposit, and in two days all was gone. Fixum wanted more money. He announced to me that he would make the bridge, and get the money by six o'clock at night. Fixum hated work, but when he started, was a prodigy. The man's teeth were ground by heroic work; the caps made in the morning. Goggles got the investment ready by five o'clock when the shadows were falling in the street. Fixum ordered the decks cleared to show me what he could do. Goggles worked the bellows, while I stared wonderingly at a feat in legerdemain. Fixum seized the red hot case with a pair of tongs and began to manipulate the solder. When a piece of gold was fractious he shouted "swine" and under his magic adjuration it swayed to his skill. When a tool grew hot, he cried

his favorite syllable and Goggles handed him a cool implement. Soon the stubborn gold grew tractable, and he wiped the sweat from his dripping neck. Before I would have dared, he ripped the investment, and heaved over the lathe. Gradually the mess took beauty, until with a final "swine" he placed the work in my hands for admiration. At six thirty the bridge was in the man's mouth, and the two fifty in Fixum's pocket. Three days later Fixum was crying for money.

I should have bought his place, but that I dreaded he would open up near by, and with the conjuration of his personality, draw the patients as the piper did the rats in the fairy story. My admiration was so profound, I listened with little horror at his railing against ethics, everything to his mind being a swindle from his college at the start. And yet this wonderful man wanted to give the money got by selling his business to some sharpers from his delusion that he could write a play.

"Ethics," went on Fixum scornfully, "means to do good. I am more cleanly than the Colleges; I do good work, and touch the patient's pockets lightly. *You* want to be ethical, *not* for the welfare of men, but the praise of society."

To Colorado where I journeyed, conditions were the duplicate of the East. The ethical men were not so friendly as the humbler brethren. I essayed an examination by the State Board, and was plucked badly. Possibly the rough lesson was sanctified to good, for on the morning following my arrival in New York, I looked through a morning paper at that part where "dentists are wanted."

A big sign displayed the business, while the windows were stopped with strips of paper. Within sat a Jewess scarcely of age, writing at a dilapidated desk.

She took my name, and confessed she was a sister of the owner by name Jacobs. While we talked, a dilapidated man entered with a toothache. Miss Jacobs produced a cigar box with some rusty forceps, and a syringe long past usefulness. "Use water" she advised when I could find nothing else. He said it did not hurt, and the girl counselled having his teeth cleaned—which I would not have thought about—and which sagacity earned an extra dollar. The man spent three dollars in all, and before night with Miss Jacobs' head, and my hands, we made fifteen dollars for the house.

Miss Jacobs had a way of making a transaction simple to those of limited knowledge, by dodging specific terms, and agreeing "to put mouth in condition." I rebelled. She responded: "They won't pay for expensive work. Pull the dead teeth, and save the easy ones. The teeth are going to ruin, any way, so clean their mouths. Put on gold caps; it looks big to them, and any one who wants them, is good enough for them."

I began to see that Miss Jacobs had practical ethics. The people were bargaining—grasping—stiff-necked. The highest appeal to them was a bargain. Her conscience acquitted her when she “cleaned their mouths,” satisfying their greed by any device which gave the house fair recompense. I grasped that a man must work not as he would but as he must to suit his environment. We sent away many a foul mouth cleansed which would not have been done but for Miss Jacobs’ methods which would not bear a microscope. Her ways were not my ways, yet to me it was a miracle how she wrought, and I wondered.

It came to pass that I made an offer to buy the office, with the agreement that Miss Jacobs was to continue her good work. In time we fared to better—and yet better quarters. Prosperity has not lessened my faith in true ethics, but I see the folly of telling a young man to “strike out,” which means go under.

WAITING ROOM LITERATURE

BY A PATIENT

I’m not a dentist. I’m only a dentist’s patient. But I want to tell you fellows who are dentists why my dentist *is* my dentist.

It’s not because he’s better professionally than any one else in town, or because his office is convenient to me. He isn’t a personal friend of mine, either. It’s because he always has up-to-date readable magazines in his waiting room. No back numbers there. And he wins me before I step into his chair.

A little thing perhaps, but it counts big with me and it counts big with a number of other people in my home town, who go out of their way to visit my dentist just because that anxious period of time when they’re waiting their turn is changed from a bugaboo into an actual pleasure by a half hour’s agreeable reading.

You’ve probably got some magazines in your waiting room. But what kind are they? Are they two or three years old—almost musty from constant exposure? If so you’re on the wrong track. You wouldn’t be tempted to read these magazines—neither is your guest.

Why not follow my dentist’s example and have some up-to-date popular magazines of fiction and humor on your table every month? It will cost you but little and it will put the waiter in a pleasant state of mind. And that’s worth dollars and cents to you.

Maybe this little talk seems somewhat trivial to you. But it wouldn’t if you’d just put yourself in the place of the fellow in your waiting room. Try to picture his state of mind—it’s none too pleasurable at the best. Why not try to make him feel a little better about it?

CAN YOU ANSWER THIS MAN?

By M. F. R.

Regarding the advertising dentist, permit me to relate the way a large firm in this city gets the business.

A Ford automobile with body removed and a platform built in its place. A dental chair, cuspidor, a small counter with a sterilizer (boiling water), a man to do the talking, or speeler, and I the extractor, formed the outfit.

We would go on a street corner, a block or two from one of his numerous offices, where a crowd would gather. This was done in the evening. The speeler, who, by the way was not a dentist, would tell the crowd who we were and what we could do in the way of painless dentistry. He quoted prices on crowns, bridgework, fillings, plates, etc., which were exceptionally low. Later when the crowd was large he would invite anyone who had a root or tooth he wanted extracted, to get into the chair where the dentist would extract it in a positively painless manner and free of charge. If a tooth, I would examine it and if I thought it should be saved, I told him so and gave him a coupon worth \$1.00 in trade at the office, where he generally went. If it had to come out, I made a local injection of what they termed, their secret local anæsthetic. It sure was painless.

Now, I extracted 500 teeth and roots per week, as high as 92 in one evening. I received a big salary, besides getting a whole lot of experience, at the other fellow's expense.

Of course my dentist friends go for me, saying I am lowering the profession, should be ashamed of myself, etc., etc. As this was done last summer when my business was not paying the rent and I have a wife and three children to support, this big salary for only two hours' work looked good to me. In other words, I needed the money.

When I started this extracting, I broke off many teeth, and the manager said, "I have not pulled a tooth for twenty years; come back to my office and I'll show you how to extract quickly and not break them off." I then learned a "trick" of extracting I had never before heard of, at college or any place else. I am now an expert extractor and have extracted three upper roots, as fast as you can count them. *Very few* times do I break a tooth or root. I have learned a few "wrinkles" in the profession from this advertising man.

The coupon stated they would extract or clean or put in a silver filling *Free*. I must say he made good on this and did as he advertised.

My forceps and hypo were sterilized, a clean towel was given the patient, also an individual drinking cup, which was thrown away after use.

Sometimes it took months before the patient came in the office with the \$1.00 coupon. Of course other work was contracted for and "big jobs" derived from this means of advertising. The manager said it cost him about \$9.00 per day but it surely paid him.

Now, regarding the ethics will say "Ethics never got me anything" using a slang expression. When my business was dull, did the dental society help me out? This man is no quack but a shrewd business man and got business on the square. No, I am not ashamed of the work I did last summer and will do it again. Let us hear from the ethical dentists on this article.

WHAT I AM, MR. EDITOR

In reply to an article in the September issue, page 575, "What Am I, Mr. Editor?" I would like to state what I am and what I think of the Code of Ethics as it is and as it is enforced.

I am located in a town where there are two men who make very profuse use of printer's ink. It is next to impossible to back up with service the claims they make on their ability. In fact they cannot "deliver the goods" they try to make the public believe they can. They are only human and render service that is not superior to the average dentist's skill. Now, Dr. A. may not claim to do anything that he does not do, and if so he is my style of a business-professional man. The fellow whom I have only contempt for is the one who uses the press to deceive the public into paying for service they do not get. He is the fellow who needs to be converted into an ethical practitioner. He is the one for whom a state or federal law ought to be made and enforced upon.

I am one of the men to whom Dr. A. referred to as "Ethically fit" (at least I am permitted to be a member of the State and National societies) and I believe that my services are as *near* painless and perhaps no more imperfect than the fellow who claims to cause no pain in his particular style of workmanship, and guarantees his work for "twenty years."

While I sit at my desk writing this article both of my "printer ink" brethren have their reception rooms full of people waiting to have "painless" (?) services rendered them. I am using conductive anesthesia (they, I am informed, do not) but I would not dare to use the columns of a newspaper to inform the pain fearing public because I would be looked upon with disgrace by my "ethical" friends.

In my opinion the Code of Ethics ought to be revised and brought up to date. The profession of dentistry in the last ten years has made a wonderful advance while our Code of Ethics has stood still. In other

words, the Code as it is and has been ever since I knew anything about it, is so narrow-gauged that we, as ethical dentists, are not permitted to tell the public anything of the wonderful advancement the profession has made and we are compelled to "hide our light under a bushel." Are we doing our duty to the public in not informing them of the source of disease infection, and the evil effects of the negligence of the care of the teeth? Under the present rules of our Code we are permitted to inform about ten per cent. and they are already at least partially informed or they would not be consulting us. The other ninety per cent. we leave for the fellows who use printer's ink to educate in a manner that is anything but correct, in most instances. Is it morally right for us to sit still, or rather keep still, and let some of these "painless fakers" educate the people into oral gold mines, anything but self-cleansing fillings and restorations? It is high time that we wake up and take a broader view of the situation and do our duty to ourselves and all mankind. We ought to educate the public into more and better service, especially oral hygiene and prophylaxis, and then the profession of dentistry will be doing a great service for the advancement and improvement of the race.

While I am writing on the subject of the Code of Ethics there is another point I would like to mention that I think ought to be emphasized, and that is this: I know members of the dental profession who are "cranks" against the use of the press to educate the public because it is "contrary to the Code of Ethics" and who are foremost in denouncing a member of a society who should overstep the rule of this clause, and then turn around and violate some other article of the Code in a much less gentlemanly manner and think nothing of it. I have also seen men (good men at home) attend the meetings of state societies, not for the purpose of bettering themselves in a professional way, but to have a so-called "good time" and spend most of the time gambling, boozing, or what is the worst of all, entertaining some member of the fairer sex, and his wife and babies at home! I have heard some fellows nearly howl their heads off over some poor fellow who violates the Code with the use of a little printer's ink in order to teach the public something about the care of the teeth. Oh, consistency, thou art a rare jewel among some members of the dental societies! Again I say it is time that we members of the State and National societies get our eyes open to "where we are at" and revise the Code of Ethics and then enforce every clause, even should only the enforcers remain as truly ethical members. Why must one fellow obey some useless part of the Code and then some other fellow use all the liberty he chooses in a moral violation and go unreprimanded for it?

L. A. T.



MY DEAR JIM:

We reached home a week ago, and I should have written to thank you for a most enjoyable week. Perhaps I should not have written even yet, if it had not been for the receipt of your letter about the death of good old Dr. Ballows with its story of his widow's condition and your suggestion that I send a donation to help save her little home from going under the hammer. I knew Dr. Ballows well, and loved him, and I enclose a check which you may apply for this purpose. I hope you may be able to raise the balance of the sum necessary.

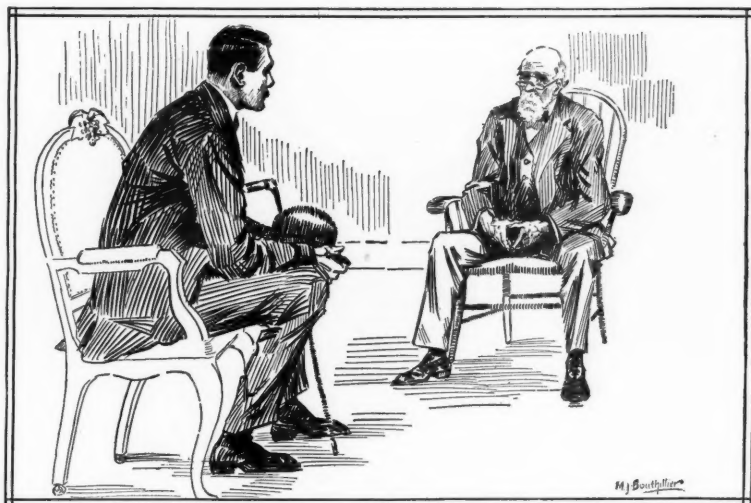
Dr. Ballows was as fine a man personally as one could find, and, considering all the circumstances, a good dentist; but he was a complete failure in other ways, and now his family must pay that part of the penalty of failure he could not pay. I want to show you what a great penalty he paid, and if possible point a moral which will make it unnecessary for anyone to take a collection to save your home for your widow.

When I was small, my folks lived only a few doors from where Dr. Ballows' office used to be and when my teeth ached, I used to run to him for some medicine. When they were past saving, he would set me up on the office table, tie a string about the offending tooth, give a jerk, and out it would come. Now that he is gone, all this comes back to me, coupled with the memory of my visit to him two weeks ago. He was then eighty years old and still sat all day in his office, that he might not miss what little came in that he could do. "I have to, Billy," said he, "I need the money." As I think of it now, I fancy he must have waited for the coming of the Great Reaper, as I waited for the jerk of the string about my tooth, a little apprehensive but anticipating the rest beyond. Now, after more than sixty years of toil, he is at rest.

I was a member of his Sunday School class until I left town. When he knew I was going away to dental college, he said "So you are going to be a dentist, Billy?" And I, trying to bear myself modestly in the face of a call to so high a destiny, said "Yes, sir." "Well," said he, "I wish you success. You will have a chance to relieve lots of pain, but there ain't

much money in it." And then, after a moment, shaking his head a little sadly and speaking as much to himself as to me he repeated, "No, there ain't much money in it."

Up until I got The Big Idea, I was too poor to get back home very often, but a year after I had begun to make money I stopped there on my way to the State Dental Meeting, and visited Dr. Ballows. The poverty of his office struck me as it never had before, and there suddenly came over me a sort of a bird's eye vision of this good old man who had toiled there since he was seventeen years old, who had begun when dentistry was a mere trade, and who had done his very best by everybody but him-



"Billy, that's awful good of you, and I'd love to go—but I've got to stay right here."

self and his own, during all the years since. I had money in my pocket, and fired with my thought, I said, "Dr. Ballows I want you to go down to the state meeting with me as my guest. It shall not cost you a cent and you needn't be gone over two days. You'll have the time of your life and see a lot of things you've read and dreamed about."

The old man came over and sat down where he could look into my face and a tear rolled down one cheek as he said, "Billy, that's awful good of you, and I'd love to go. Every year I look forward to the hope of going, but I can't go this year, Billy. I've got to stay right here in the office. It has not been a good year for me." And I knew he didn't dare to go away for fear he might miss a few dollars' worth of work that might come in and that would be needed for his wife and himself.

I went to the state meeting, but I didn't get much out of it. Every time I looked at an appliance I saw the old doctor's face. When I saw the new chair I wanted, I saw him bending over it, good, patient, kind, poor.

I went in to hear the papers, and someone told me afterward they were good, but they didn't strike me that way. The essayists didn't seem to be talking about technic. They seemed to me to be saying, "Where am I headed for?" "What will be the outcome for me and mine twenty years from now?" And then they seemed, in turn, to suddenly grow that twenty years older, and to have the chance to go to the state meeting, and every one of them looked up and said "I'd love to, Billy, but I can't be away from the office." And I knew that after lifetimes of service they had reached the Ballows state, and they just had to have the daily earnings to keep them going.

I didn't get much out of the state meeting, but I got a lot out of Dr. Ballows, on the way; I got a much better idea of the fact that the practice of our profession isn't so one-sided as many would have us believe. And I got hold of the great fact that Justice, like Charity, begins at home, and that my obligation to the lives dependent upon me is much greater than my obligation to persons to whom I am unrelated. I needed that perception to round out The Big Idea and give it force. And when someone who sees only the professional half of our field, comes at me with an exaggerated statement of my responsibilities to patients and the community, I go right back at him with the statement that my responsibility to the patient is not one whit greater than the patient's responsibility to me. I am bound to serve him promptly and well. And, with the exception of charity patients, he is bound to pay me promptly and well. And I go after the money now with a light heart.

Let me sum up Dr. Ballows' career for you. He began at the age of seventeen and practised dentistry for low fees till he was eighty. He relieved thousands of cases of pain, and even the well-to-do paid him a mere pittance. He saved thousands of teeth and received less pay per hour for it than the man who is emptying my ashes as I write this. He was a good man in all personal ways.

He was very unjust to his family. He did not know that he was, and he would have been hurt and offended if one had charged him with being so. But he sacrificed their welfare in countless instances for the welfare of others to whom he was in no way related. And as all the sacrifices fell on him and his, the price was heavy, while the benefits were so scattered as to really help no one.

He did thousands of operations for mere pittances, not for people who could not pay, because we had few really poor in our town, but for people

much better off in worldly goods than himself. He would spend hours on a root or a crown and charge \$5 or \$6. True, he didn't know any better, but that doesn't help matters a mite. Nature has a relentless way of relating cause and effect, whether we care or not.

Dr. Ballows paid the price of his ignorance as long as he lived, by living in what was little more than poverty, when he should have been comfortable. Old David Breen who was rolling in money, went in to Dr. Ballows and got about \$700 worth of work for a little more than \$70 and then took two years to pay for it. The bank cashier did the same. And good, old, ignorant, unjust Dr. Ballows let them do it. Now that



Old David Breen who was rolling in money, went into Dr. Ballows's office and got about \$700 worth of work for a little over \$70, and then took two years to pay for it

Doctor is gone and where he can no longer pay, good old Aunt Nancy must live to pay the rest of the penalty. Everybody loves her, but that doesn't keep her from being very, very poor.

Dr. Ballows did not give any of his children the training which would have made them most useful and influential in the world, because he was too poor. He gave them sound bodies and good brains, but they all left school too early to really develop, and went to work, in ways you know about. And they are "just keeping along," and will "just keep along" all the days of their lives.

It is easy to rob those who are defenceless. Aunt Nancy at home, taking care of the youngsters, and trying to make ends meet, didn't know where the trouble lay. She didn't stand the doctor up in the corner and

explain his duties to her and the children and then see that he performed them. She loved him and trusted him and did her best, and his carelessness and ignorance robbed her daily.

The children couldn't tell him anything about it, nor protect themselves from his course. He was their dear daddy, and to the day of his death, he had a little shrine in each of their hearts. It's pretty easy for a keen patient to reach around the protection of a loving but ignorant husband and father and take away the treasures of the unwatching wife and little ones.

Dr. Ballows robbed his own life of its greatest opportunities. His fine character and more than ordinary intelligence, fitted him to exert more than a narrow influence. But he never had leisure to develop as he would have loved to do. He frittered away his goodness in poverty-ridden fees, and could never gather force enough to make himself a power. Oh, yes, "he did good," as you will say, but I turn over the thing you call "good," and, on the other side it looks to me like injustice; that is he did indefinite "good" to strangers and very definite injustice to his loved ones and himself.

I've written you this long letter that I might gather force for a sting in the end of it, and make it hurt so that you'd have to take notice. Dr. Ballows robbed his own life and the lives of every member of his family by working for fees which did not contain sufficient profit to support them in the way the quality and amount of his service justified. And every time you quote a fee which does not have enough profit in it so that you and your family can live on that profit and perhaps save a bit for old age, you're robbing your life and the life of your wife and the lives of those two dandy youngsters, to give to somebody who may not need it half as much as you do. Mind you, I'm not speaking of charity patients or very poor people, I'm talking about your regular patients, who I think, are better off, on the average, than you are. And the mere fact that you don't know about the amount of your profits and are too set in your way to be willing to find out, will not prevent the robbery taking place.

I can't tell you how much you will lose in this way, or how much you will take from those you love better than life, but if I should happen to live till you have to quit practice, I can show you then, though it will be too late to help any. For all the little losses, will then come home in the shape of a big loss, and you and yours can pay it by going without creature comforts you should have had.

In the days when I was a little lad, dear old Aunt Nancy gave me many a cookie and doughnut, hot from the kettle. I wish you would send your wife around to find out in a quiet way just how she's fixed for coal

and food for the winter. I'm going to pay her for a few of the goodies she's given me, and the interest they've been accumulating. But how much better it would be if this payment from an outsider didn't have to stand between the dear old lady and the wolf or the cold.

Bill

HER FATE

By ALICE M. GIBSON, LOOKOUT MT., TENN.

I wake to find the hour has come,
A sleepless night I've passed,
With halting steps, I leave my home,
To find myself at last—

His arm around me, and I sigh,
I gaze into his eyes,
But strange to say, you'll wonder why?
In them no lovelight lies.

And yet, it is with my consent,
I silently await,
The hours that I shall call well spent,
When I have kept this date.

Both eager and intent is he,
He speaks—but all grows dim!
Some stranger spell is over me,
I cannot answer him!

Yet languishing in his embrace,
With anguish keen I'm thrilled,
Until he looks into my face,
And says, "Your tooth is filled!"

Oh dentist! much abus-ed thing,
Your name brings chilly chills,
And when your work is done you spring,
Not billet doux—but bills!!



PRACTICAL HINTS

[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.]*

RENEWING ZINC.—When zinc used for dies becomes thick and does not pour well, melt to dull red heat and add a tablespoonful of strong hydrochloric acid while stirring.—JOHN C. HOPKINS, D.D.S., *Pacific Dental Gazette*.

FOUR USEFUL HINTS.—1. Steel hypodermic needles after being boiled in soda solution, have alcohol forced through them and then dried by burning alcohol remaining in same over alcohol flame, then placed in sterile container until ready to be used.

2. Washers to be used on hypodermic syringes are easily made out of block tin of desired thickness and are far preferable to leather washers as they are durable and can be boiled if necessary.

3. I find that a sheet of bibulous paper folded the desired number of times is cleaner and better than chamois skin to squeeze out the excess of mercury from amalgam.

4. A convenient container with Lysol Solution in which to place burs after being used renders them easy to clean and prevents same from rusting.—M. M. BROWN, D.D.S., Macon, Miss.

AN ORANGE-WOOD STICK FOR A BROACH HOLDER.—If you will try pieces of orange-wood stick such as come in bundles (preferably large size), cut to desired length, as broach holders, I believe you will find them preferable to the holders on the market because they are very light. The sense of touch is not interfered with, and by forcing broach into end of stick with a pair of pliers a sufficiently firm grasp is made on the broach for all purposes. A small hole drilled in end of stick for a short distance renders insertion of broach easier; handle can be boiled if necessary and used many times.—M. M. BROWN, D.D.S., Macon, Miss.

TO OBTAIN GOOD RESULTS FROM SYNTHETIC FILLINGS.—To get best results from our synthetic fillings, great care should be exercised to insure cleanliness of mixing slab, spatula, and instruments. Of course these

*In order to make this department as live, entertaining and helpful as possible, questions and answers, as well as hints of a practical nature, are solicited.

are always washed immediately after using, but are they always cleaned with alcohol just before using? They should be in every instance, to free them from any foreign substance, which if present even in very minute quantity, is going to be incorporated in our mix, and so contaminate it with the result of a less perfect filling. A great many failures with this substance may be traced to inattention to this seemingly unimportant detail. For this purpose I use an inexpensive perfume atomizer or perfumizer, as it is called, made by the De Vilbiss Company and it is extremely convenient and efficient.

By holding slab and instruments in front of atomizer containing alcohol and compressing bulb only once or at most twice, we find the whole surface covered with a fine spray of alcohol, which when wiped off with a clean dental napkin, thoroughly removes the last trace of foreign material and leaves slab, etc., absolutely clean.

Another excellent use for the alcohol thus atomized is for the cleansing of eye glasses. A great many of us wear glasses, and I know that a large per cent. have trouble in keeping them clean and clear, much to their discomfort if not actual injury. Glasses cleansed in this manner are perfectly clean and are greatly appreciated by the tired eyes, particularly at the end of the day.—J. WILLIAM O'CONNELL, D.D.S., Wakefield, Mass.

TO CORRECT AN EXCESS OF SOLDER IN GOLD CROWNS.—To correct the accidental presence of an excess of solder on the inside of a crown which interferes with its adjustment, cut a small piece of articulating paper to fit inside the occlusal portion of the crown. With this in place in crown, dry the prepared tooth and place crown in position. The interfering point will be plainly marked on the natural tooth and also on the inside of the crown. Trim off either tooth or crown.—N. P. SHEARER, D.D.S., Kenosha, Wis.

CARBOLIC ACID FOR STERILIZING OR OBTUNDING DENTIN.—When carbolic acid is used for sterilizing or obtunding dentin, alcohol should not be used to dry out the cavity. Alcohol and carbolic acid are incompatible, and the action of the latter is neutralized in such cases. Chloroform should be used in place of alcohol.—F. W. P., *Journal Allied Dental Societies*.

SOME POINTS IN SOLDERING.—Broken facings are the result of three errors of manipulation, namely, burning borax into the porcelain, too close contact between the facings, and the rapid heating of the pins.

Borax burned into the porcelain lowers the fusing-point, and it actually burns, so to speak. The rate of expansion is greater in the contaminated portion, and cracks, and checks result.

If facings are tight together when invested they have no room to ex-

pand when heated, and fractures follow. It is often desirable to have the teeth quite close together in an anterior bridge. To avoid breaking the facings in such a case it is best to arrange them without regard for this point at first, then, after having made a wall of plaster to preserve the original set-up, grind the approximal surface of each facing a trifle. The space obtained by a mere touch on the stone will not be noticeable, but will suffice to allow the porcelain to expand without checking.

The sudden heating-up of the pins is a common cause for broken facings. The smaller bulk of metal heats and expands more rapidly than the porcelain. It is a bad idea to burn the wax out of an investment before placing it over the furnace, for a mere flash of the flame on to the exposed pins is enough to ruin the piece before the soldering is begun. The wax can easily be lifted out in one piece when the investment begins to warm-up from underneath.

Pouring hot water into an investment to boil out the wax is unnecessary. It is possible to check the facings in this way, and it also weakens the investment. Facings seldom break from too rapid cooling. If they do break for this reason, however, it is because the porcelain contracts more rapidly than the pins. This is an improbable occurrence where the tooth is embedded in investment.—From E. L. KANAGA's paper in *The Dental Cosmos*, August, 1915.

QUESTIONS AND ANSWERS

Question.—Does any one know a better method of removing a Richmond crown than by drilling a hole above facing, parallel with top of root and with broken instrument loosening same with prying motion. Or by cutting grooves at junction of root and crown both labially and lingually and pinching it off with a pair of excising forceps? Both of these methods work fairly satisfactorily at times, but can anybody give us a method that will work as well or better with less danger of mutilating crown?—A. C. WITHERS, D.D.S., Denver, Colo.

Question.—Some time ago a dentist asked if I ever tried the fifteen-minute repair rubber for repairing plates. I did not know then that there was anything of this nature on the market. If there is, what do you think of it? Would you use it?—J. A. KNOX, D. D. S., Bozeman, Mont.

ANSWER.—Fifteen-minute repair rubber has been on the market for a good many years. I have never used it; though I understand it is all right. I would certainly expect it to be somewhat more brittle and less durable than full-time rubber, and one could not save much more than an hour's time through its use as case would have to be packed, flaked, brought to vulcanizing temperature and cooled the same as usual.—V. C. S.

Question.—For children's teeth or where the opening of the roots is large and it is at times impossible to dry up same, either from lymph or blood, is it good to use trichloracetic acid? If so, what strength? If used does it have to be neutralized in any way or can root be filled immediately?—E. A. K.

ANSWER.—I have not been in the habit of using trichloracetic acid in roots as you suggest, but I see only one reason why it would not be very good practice. Trichloracetic acid is a good antiseptic as well as excellent styptic and its escharotic effort is self-limiting. However, the slough following its use in escharotic strength would be detrimental within the confines of a root canal. I see no objection to its use in say 15 per cent. solution, which is styptic and stimulating to gum tissue. But in this connection I should like to emphasize the fact that one should be very slow to condemn the pulp of a child's undeveloped tooth to devitalization. Exposed nerves in such teeth should, in the vast majority of cases, be soothed with sedative antiseptic dressings of oil of cloves, and capped; even though it be but for a few years, until the roots have had time to complete their development. I believe that the nerves in these teeth have greater resistance and more recuperative power than is the case with a fully developed tooth, because of the greater and freer blood supply through the larger apical foramina. I will cite one case in my practice where a little girl had a pulp exposure in six-year molar fully a sixteenth of an inch in diameter, which had received an application of oil of cloves on cotton daily for several weeks before she came into my hands. Upon satisfying myself that the pulp was in an uninfected and non-irritated condition, I capped the exposure and filled the tooth. There has been no subsequent discomfort and at intervals I have given the tooth the thermal test to which it has each time responded normally; the last about three years after the capping operation.—V. C. S.

ANSWER.—In reading the September DENTAL DIGEST under "Questions and Answers," page 585, I notice the difficulty that Dr. E. C. McC. has with his baby boy of thirteen months. The thought has come to me that perhaps the baby has enlarged tonsils which cause the inferior protrusion. It has been my experience, in the limited amount of orthodontia I have done, to observe that the protrusion of the upper teeth is caused from adenoids while the protrusion of the lower is caused from enlarged tonsils. However, I may be greatly mistaken.—T. A. LEACH, D.D.S., Emporia, Kans.

AN EPITOME OF CURRENT DENTAL AND MEDICAL LITERATURE

[*Items of Interest*, October, 1915]

Exclusive Contributions

*Observations on the Relative Toxicity of Novocain and Cocain. By Drs. J. M. Levy and Robert A. Hatcher.

Eastman Dental Dispensary.

Urgent Appeal for a Special Dental Hospital Fund for the Relief of the Many Sufferers from Wounds of the Face and Jaws Sustained in this War. By Dr. R. Anema, D.D.S.

The Problem of Root Canal Treatment. By Frederick W. Frahm, Ph.G., D.D.S.

American Society of Orthodontists. Discussion on the Paper of Dr. Grieves.

Mouth Infections: Their Cause, Treatment, and Systemic Effect. By Arthur H. Merritt, D.D.S.

OBSERVATIONS ON THE RELATIVE TOXICITY OF NOVOCAIN AND COCAIN

By J. M. LEVY AND ROBERT A. HATCHER

From the Laboratory of Pharmacology of Cornell University Medical College

1. The combined use of epinephrin (suprarenin) with novocain does indeed lessen the systemic action to a notable degree.
2. The slower the injection, the less the toxicity.
3. The sudden entrance of a dose so little as 20 grains into the circulation indicates that it would be dangerous and might prove fatal.
4. The experiments indicate that a slow injection intravenously of .408 mg. within a period of four hours could be given without causing death and without causing more than temporary injury. But this does not suggest that even smaller doses may not be injurious *indirectly* in ways yet undetermined.
5. The effects of the injections of such colossal doses of novocain on the heart and respiratory system are only fleeting. This points conclusively to the rapid elimination of the drug or its fixation in the tissues in such a way that it no longer exerts its typical effects on the heart and respiratory system.
6. The experiments show that the toxic effects of cocain vary within narrower limits than that of novocain with the varying rates of administration.

METHODS OF COMBATTING ACCIDENTS

The nature of the toxic action of novocain makes it apparent that sudden death may result then from the cardiac or respiratory failure, and efforts were made to determine the best methods of combatting this accident.

Owing to the rapidity of the action it is obvious that any measures of

relief must be instituted without loss of time; hence only those measures were considered which could be applied at once under the conditions obtaining in the offices of dentists.

RESPIRATORY FAILURE

Respiratory failure obviously calls for artificial respiration, and every dentist who uses a local anesthetic should be familiar with the Schaeffer method of artificial respiration, and in case of respiratory failure, artificial respiration should be begun at once and conducted until spontaneous breathing begins.

CARDIAC FAILURE

Cardiac failure is a more formidable condition, and the only method of combatting this accident that we can recommend, as the result of our experiments, is the injection of epinephrin directly into the heart. For this purpose a reliable specimen of epinephrin should be kept at hand and a small amount injected at once if the heart stops suddenly.

We have already stated that the heart and respiration ceased almost simultaneously in the cat, and one might be inclined to argue that it would be useless to carry on artificial respiration alone in case of accident in man.

So far as one can deduce from experiments on animals, moderate doses of novocain will not cause either cardiac or respiratory failure in perfectly normal man, but the fact that death does occasionally follow moderate doses would seem to indicate that in such cases the heart or the respiratory centre is not quite normal, and in that case the drug will probably exert its action on whichever of these two structures is abnormally susceptible, and there is no reason to suppose that in any given case both the heart and the respiratory centre will exhibit any such extraordinary susceptibility to the action of the drug; therefore, if we can maintain an artificial respiration or can stimulate the heart to maintain the circulation for a few minutes, in case of accident, the drug will be eliminated from the circulation and the patient can be restored.

[*The Dental Cosmos*, October, 1915]

Original Communications

On Cystic Tumors of the Maxillæ, and Especially on Adamantine Cystadenomas (Adamantomas). By Prof. Francis Harbitz.

A New Method for Indicating Normal and Abnormal Relations of the Teeth to the Facial Lines. (II.) By J. A. W. Van Loon, M.D., D.D.S.

A Consideration of Some of the Present Tendencies in Dentistry. By C. N. Johnson, M.A., L.D.S., D.D.S.

The Value of Casting in Crown and Bridge Work. By W. J. Robinson, D.D.S.

*Suggestions Toward the Rational Treatment of the Various Forms of Pyorrhea Alveolaris. By W. Sterling Hewitt, D.D.S.

The Relation of the Vitality of the Periapical Cementum and Adjacent Tissues to the Patient's Health and the Status of the Dental Profession. By Clarence J. Grieves, D.D.S.

Working Out the Details of a Preventive Dental Clinic for School Children. By Mrs. Hubert W. Hart.

Work of the Preventive Dental Clinic in the Bridgeport Public Schools. By Miss Rose E. House.

The Late Results of the Cleft Palate Operation. By Truman W. Brophy, M.D., D.D.S., LL.D., F.A.C.S.

Personal Observations of the Brophy Plan of Dealing with Complete Clefts of the Lip and Palate. By V. P. Blair, A.M., M.D., F.A.C.S.

The Importance of Sound Temporary Teeth to Facial Growth and Development. By J. Lowe Young, D.D.S.

SUGGESTIONS TOWARD THE RATIONAL TREATMENT OF THE VARIOUS FORMS OF PYORRHEA ALVEOLARIS

BY W. STERLING HEWLETT, D.D.S., PHILADELPHIA

WRITER'S METHODS OF TREATMENT

At present, I use the following system, which of course is subject to change:

(1) Gingivitis, inflamed gums with grayish white margins, little or no hard deposit, and sensitive to salt and vinegar, I treat with a 5 per cent. solution of iodine or potassium chlorate and copper sulfate, besides careful cleaning with pumice and orange-wood. I make little or no attempt to get under the gums. These are the conditions in which I suspect Vincent's angina.

(2) In cases where there is little or no deposit either on the teeth or beneath the gum margin, and where pus exudes from the gingiva, I use local applications of 5 per cent. iodine and an autogenous vaccine, with little or no instrumentation.

Concerning vaccines, I would say in parenthesis that I use them mostly for suppurative conditions following the extraction of a third molar and in treating chronic abscesses. For the technique I would refer to the writings of Dr. Joseph Head.

(3) In cases where there is a very heavy deposit of salivary calculus on the free surfaces of the teeth and no deposit beneath the gum margin, the gums being merely pushed back mechanically, I use only careful instrumentation, with sometimes internal administration of sodium bicarbonate. I see the patient at first at frequent intervals, then gradually lengthen the time between visits to six months. In this manner the formation of calculus can usually be checked almost completely.

(4) In cases in which there may be little or no deposits on the free surfaces of the teeth, but heavy black deposits beneath the gingival margin either in isolated scales or in rings, with pus or without pus, I immediately suspect the endamœba.

I use careful instrumentation and injections into the arm of emetin

hydrochlorid 0.03 gm. in 1 cc. physiological salt solution once a day for three or four days, as given by Barrett, Smith, Bass, and Johns, and to their writings I refer in regard to technique. I do not inject emetin in the gums, for I have found that there is danger of introducing the associated bacteria and infecting the part. I allow the patient to apply the emetin locally, and prescribe a 1 per cent. solution of emetin hydrochlorid in physiological salt solution, advising the patient to put five drops on the wet toothbrush and apply. This will prevent reinfection and is much better than the alkaloidal form emetol, as used in proprietary preparations, for emetin hydrochlorid is an acid.

[*The Dental Summary*, October, 1915]

Contents

Regular Contributions

- Dental Radiography. By George E. Johnson.
 The Principles of Vaccine Therapy, Etc. By Bailey Harris.
 The Antrum of Highmore. By T. F. Driskill.
 The Education of the Future Dentist. By Eugene S. Talbot.
 Dental Surgical Pathology. By Carl D. Lucas.
 Tonsil and Adenoid Pathology. By William F. Clevenger.
 Pulp Canal Operations. By W. H. Jackson.
 Relation of Diet to Dental Caries and Mouth Infection. By J. H. Kellogg.
 Root Canal Filling. By W. C. Hessler.
 The Emetine Treatment for Pyorrhea. By J. V. Starks.
 The Use of Synthetic Porcelain. By F. J. Prow.

Health Conservation

- A Healthy Citizenship the State's Best Asset. By James M. Cox.

Obituary

- Dr. Greene Vardiman Black.
 Dr. Francis Marion Burkett.

PULP CANAL OPERATIONS

By DR. W. H. JACKSON, ANN ARBOR, MICH.

In reading over Doctor Best's paper in the November (1914) number, with the discussions that followed, I was impressed with the fallibility of the dentist, as well as humanity generally. It is a self evident fact that every dentist should be honest. If he is honest he will give his best services to his patient whether he is remunerated or not. Else it is better to reject the case.

In dealing with pulp canal operations, we must not lose sight of the fact that a portion of the tissue is dead material, and it or some foreign material must remain in contact with the living.

Such being the case, there is always a weak condition at that point so that when the system is attacked by germs that produce inflammatory

or feverish conditions, they may or will attack those points more readily than any other, lest there be a lesion in some other tissue more easily accessible. The great wonder is that the system will submit to such conditions at all.

I fail to find to any extent a greater proportion of successes in the treatment of abscessed teeth than was obtained between forty and fifty years ago, when we filled the canals after treating with gold, tin foil, or a bit of gold foil twisted around a fine broach to a fine point, melting a little wax or paraffin on it and then forcing it home. Yet with all the care, after ten, fifteen, thirty, or forty years without any apparent trouble, microorganisms have entered the system and sometimes set up inflammation at the apex of the root where the original lesion took place, sometimes causing a loss of the tooth as the result. Had the same systemic conditions occurred at any time previous there would, without doubt, have been the same results.

To be sure, by this great care we minimize the trouble and loss. Many a tooth is lost by enlarging the pulp canal at the apex, thereby bringing a larger amount of foreign matter in contact with living tissues which are not in harmony with each other. The larger the area of such contact the greater liability to have trouble in the future.

Owing to these conditions being always present in pulpless teeth, I was surprised at some of the statements made by some of those who discussed his very good paper, but I have been so many times disappointed in X-ray diagnoses that I hesitate to make any positive statements in any particular case. Even in the photos given I fail to see any betterment in some of the cases of the soft tissues beyond the tooth. In a case that I now am treating, the skiagraph shows a fully developed left superior central incisor, which never erupted, lying crosswise deep in the process.

In trying to bring it to the surface, I have removed two small spindle-shaped supernumeraries and the third tooth that is making its appearance begins to look as if it might be another, at least it shows an imperfect formation for a normal incisor. There is nothing in the picture to indicate anything but a single normal tooth in an abnormal position.

Though a tooth may be perfectly filled to the apex and not beyond, and though the same may be perfectly aseptic when it is filled, there is no positive assurance that it will never cause any trouble.

[Journal of the Allied Dental Societies, September, 1915]

Contents

Are Dentists Qualified to do Medical Research Work? By Eugene S. Talbot, M.D.
Chemical Studies of the Relations of Oral Microorganisms to Dental Caries. By William J. Gies and Collaborators.

The Value of a Tooth. By Eugene H. Smith, D.M.D.

President's Address, Maine Dental Society. By Harry P. Jones, D.D.S.

Address Delivered at Fiftieth Anniversary of the Maine State Dental Society. By Charles M. Proctor, D.M.D.

An Improved Method of Anchoring Detachable Crowns in Vulcanite Plates and Bridges. By Frederick H. Nies, D.D.S.

Reports of Society Meetings

First District Dental Society, S. N. Y., February 1, 1915.

Boston and Tufts Dental Alumni Association, June 9, 1915.

Editorial Department

Rochester's Triumph.

The Maine Dental Society.

[*The International Journal of Orthodontia*, September, 1915]

Original Articles

The History of Orthodontia. By Bernhard W. Weinberger, D.D.S., New York City.

A Study of Mouth Conditions of Patients Suffering from Stomach and Intestinal Disturbances. By Blaine Truesdell, D.D.S., and W. H. Mick, M.D., Omaha, Neb.

The Loop Regulating Appliance. By Martin Dewey, D.D.S., Kansas City, Mo.

Modern Orthodontia in Principle and Practice. By W. O. Talbot, D.D.S., Fort Worth, Tex.

Excerpts

A New Method in Dento-facial Orthopedia.

Editorials

The Eastman Dental Infirmary.

*The Dental Horizon.

THE DENTAL HORIZON

The dentist who has looked upon his profession as being only an improvement over that of the plumber is finding himself strangely like that of the Arab, famous in poetry and in song; and, like that personage will soon be folding up his tent and silently stealing away.

Dentistry is making such strides that by the next decade its position among the learned professions will be established, and it will be in such close relationship with medicine that there will be wide-spread intermingling of these professions.

Why is it not, therefore, necessary that a dentist have a broad, liberal education? Surely the work he is called upon to do, if well done, demands an understanding of interrelated sciences. He should know pathology in its broadest sense, should be thoroughly familiar with bacteriology and should understand the principles of vaccine and serum therapy. He should be an adept in diagnosis; not alone in diseases of the mouth, but be able to interpret the symptoms manifesting themselves

in the mouth, of systemic diseases. He should be a competent embryologist, and thus understand the malformations of the mouth and jaws that come under his observation for treatment.

Physiological chemistry should not be a closed book to him, because it is necessary that he understand digestion and the part played in it by the secretion of the glands in the mouth and stomach. The recent investigation in the etiology and treatment of pyorrhea is convincing proof of how necessary it is that he thoroughly understand bacteriology and vaccine therapy.

He should know enough of general medicine to advise his patients of the possibility of endocarditis and of the almost certainty of arthritis from a neglected pyorrhea. He should know the intimate relationship between migraine and diseased teeth, and be able to detect the hidden diseases of metabolism, manifest in child life by symptoms in the mouth and teeth. With all this he must be a good mechanic, a metallurgist, a skilled technician, and should have a correct understanding of facial art.

With this conception of dentistry, who would restrict the Dentist's Mental Horizon by denying that before a student takes up the study of this art and science, he should not have a broad educational foundation?

There is no logic in the statement that a practical dentist or physician is of more value to society than the one highly educated and trained. The only difference is in favor of the patient who is served by the one better trained. There are prodigies of course in all the learned professions, but who dares think it necessary to split rails or drive a tow-boat in order to practice law and become a national president. Lincoln and Garfield were accidents. Occasionally you see a good dentist develop from uneducated and ill-trained material; but the occurrence is rare. Dental education is a serious undertaking, and those engaged in it should recognize its seriousness. No effort should be spared on their part to recruit the ranks of dentistry with students who have a broad liberal education in the sciences, and who will develop into dentists with a horizon limitless in its scientific expanse.

[*The Dental Review*, October, 1915]

Contents

Original Communications

A General Consideration of Removable Partial Dentures and the Various Forms of Attachments. By C. W. Coltrin.

A System of Positive and Painless Tooth Movement. By R. D. Robinson.

The Significance of the Dentist to Oral Infections in Their Relation to Systemic Disorder. By T. L. Gilmore.

A Review of the Relations of Oral Endamœbæ to Pyorrhea and of the Use of Emetin in the Treatment of Amœbic Pyorrhea. By Allen J. Smith and M. T. Barrett.

Proceedings of Societies

Illinois State Dental Society Fifty-first Annual Meeting Held at Peoria, May 11-14, 1915.

Editorial

G. V. Black.

Obituary

G. V. Black.

[*Dominion Dental Journal*, October, 1915]

Original Communications

Possibilities of Local Anaesthesia. By E. W. Paul, D.D.S., L.D.S., Toronto, Ont.

Discussion.

Rosin Solution. By J. R. Callahan, Cincinnati, Ohio.

Discussion.

Editorial

A Reply to Some of the Criticisms of the Army Dental Fund of the Canadian Dental Association.

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Correspondence

Dental Practice and the Sales of Liquor Act.

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Report of Dental Work Done at Valcartier Camp.

Additional Subscriptions to Canadian Army Dental Fund.

Results of Dominion Dental Council Examinations.

Obituary

G. Vardiman Black, M.D., D.D.S., Sc.D., LL.D.

[*New York Medical Journal*, September 25, 1915]

CANCRUM ORIS TREATED WITH NEOSALVARSAN

BY ADOLPH G. DE SANCTIS, M.D., NEW YORK

I would report the following case as of special interest in the treatment:

CASE.—William F., aged five years, American, seen June 25th. Family history: Mother and father living and well; no brothers or sisters; no history of tuberculosis, insanity, syphilis, etc. Personal history: Had scarlet fever three years ago; no history of whooping cough, diphtheria, chicken pox, or measles.

Present trouble began two weeks ago; was taken ill with a cough, coryza, and reddening of the eyes as mother described it. Two days later, a rash appeared. Parents called it measles, but did not call a physician to take care of case. Child got along apparently well, till

June 24th, when the temperature rose markedly, child became prostrated and had a foul odor from mouth. When no improvement was noticed the next day, I was called in. I found temperature 104 degrees F., pulse 140, respiration 28. The first thing that attracted my attention was the foul odor as I stood at the bedside. Child was undernourished, thin, and anemic looking, lay prostrated, unconscious of surroundings. There was no apparent rash nor desquamation; profuse sweat about the scalp. Dark red spot, size of a pea, seen on right cheek externally; area around this spot was edematous. Tongue covered with a white heavy coat. Odor from mouth very foul. Teeth in fair condition; some loose. Eyes, ears, and nose, negative.

On examination of the right cheek internally there was seen a greenish black necrotic area, size of an American dime, surrounded by greatly edematous tissues. Left cheek was apparently normal. Tonsils were not enlarged, nor covered with any membrane or exudation. Cervical glands were markedly enlarged on right side.

Lungs negative. Heart sounds rapid and feeble, but regular; no audible murmurs. Abdomen negative to inspection, palpation, and percussion. Extremities negative. Diagnosis: Cancrum oris following measles.

TREATMENT.—I immediately curetted the necrotic spot on the right cheek thoroughly. After curetting I touched the whole area with pure carbolic acid followed by alcohol. The same day I gave 0.45 gram of neosalvarsan intravenously in vessel of right arm. I also used a mouth wash of equal parts of hydrogen peroxide and water every two hours. Strychnine sulphate one ninetieth grain was given every three hours by mouth, alternating with a teaspoonful of brandy in water.

The next day, when I called, I was surprised at the wonderful change in the patient. The temperature was 101 degrees F., pulse 132, respiration 26. The child was apparently feeling much better, asking for water every now and then. The necrotic spot on the cheek was of a dark red color, had not spread, and the tissues surrounding it were less swollen. Condition kept on improving daily, and on July 1st I discharged the patient apparently cured. The necrotic spot on the right cheek had completely vanished, leaving a small bright red area. No teeth were lost during the illness. I attribute the rapid cure to the neosalvarsan and not to the curettage and cauterization, which, however, are essential procedures in the treatment of noma. Equally amazing results in the treatment of noma were obtained in the Kingston Avenue Hospital for Contagious Diseases, Brooklyn. During my service there as an intern, Doctor Eberle, of the resident staff, successfully treated cases of cancrum oris by intravenous injections of neosalvarsan. I should be

greatly indebted to any physician who has followed the same plan of treatment in these cases for a report in order to learn the real value of the treatment in cancrum oris.

[*Svensk Läkarsällskapets Förhandlingar*, April 6, 1915]

RECENT INVESTIGATIONS REGARDING THE ETIOLOGY OF PYORRHOEA ALVEOLARIS

BY ALFR. PETERSSON

Commenting on the discovery by Smith and Barrett of *Endamoeba buccalis* as the cause of alveolar pyorrhea, the author believes this protozoon to be identical with the one described by Prowazek in 1904 and Steinberg in 1862, the *Amoeba dentalis* of Grassi (1879), and the ameba that Flexner, of Baltimore, found in 1892 in an alveolar abscess. This ameba would only be causative in a part of the pyorrhea, cases not having been discovered in all. Moreover it has been found in other conditions than alveolar pyorrhea. Furthermore, Chiavaro, of Rome, has come to entirely different conclusions. He has found that this ameba becomes encysted in the mouth; that it moreover occurs in concretions on neglected teeth. He believes that it plays no rôle in the pathology of pyorrhœa alveolaris, but rather contributes to the autodisinfection of the mouth by taking up and digesting other bacteria. On the other hand, attempts at obtaining pure cultures and immunization by vaccines in pyorrhœa alveolaris has met with partial success, and the author believes that the study of the pus with the object of obtaining a pure culture will lead to the solution of the problem.

[*New York Medical Journal*, October 9, 1915]

A NEW SPECIALTY DEVELOPING IN FRANCE

Editorial

Stomatology is the latest development of specialism in France, a service having been organized recently for the benefit of one of the army corps under Doctor Gaumerais, who describes it in *Paris médical* for September 11, 1915. Such a service has to fulfill the triple duty of repair of the maxillaries, the filling of teeth and manufacture of artificial dentures, and of general care of the mouth. It is best established thirty or forty kilometres from the front. The writer emphasizes the importance of the new specialty, which is likely to escape the superficial observer and shows how important it is to the older men, for example, to have their false teeth replaced immediately when lost or broken, and to men of all ages to be promptly freed from toothache without loss of the offending

tooth, if possible. The service has to be freely movable and is therefore accommodated in an automobile of moderate dimensions, fitted with a dentist's chair, washstand, etc., and the small instruments required, but unencumbered with the heavy baggage of a Red Cross surgical ambulance. Light and heat are easily furnished by gasoline or electricity from the numerous automobiles to be found everywhere along a modern line of battle. The personnel is best composed of a surgeon, a surgeon dentist, and a mechanical dentist; its work is done during one of the frequent rest periods allowed to the troops, and mechanical cases are examined first, to permit of the repair of dentures, etc., while prosthetic work is being done by the surgeons. The automobile is so arranged that the chair is in full daylight, when possible, while curtains screen it from the curiosity of passers-by.

[*Journal of the American Medical Association*, August 14th]

(*Boston Medical and Surgical Journal*, July 27th)

PREVENTABLE HEART DISEASE

Lee emphasizes that most heart disease is due to an antecedent infection. The prevention of heart disease is the prevention of infection. While it is true that certain infections like the tonsillitis-rheumatic fever symptoms-complex group and syphilis are particularly associated with cardiac disease, yet logically every infection may be regarded as a possible carrier of damage to the heart. There does not seem to be adequate appreciation of the possible sequelae of infections, particularly rheumatic fever. Continued supervision after infections is important in order that an early endocarditis may be detected and the resulting damage be minimized. At present the development of medical inspection and supervision of school children seems the next step.

[*Journal American Medical Association*, September 11, 1915]

(*Russkig Vrach*, Petrograd)

RESEARCH ON THE SALIVA

The viscosity of saliva depends on the quality of the food being taken. Lubimoff found that the saliva in dogs becomes less viscous if they are given, for instance, dry toast at five-minute intervals. If then the saliva is passed through a narrow glass tube, it will be found that the first portion requires fifteen seconds for its passage, the third, fourteen seconds, the last portion about twelve seconds. When given 10 c.c. hydrochloric acid (0.25 per cent. solution) every five minutes, collecting each time the saliva in test tubes, Lubimoff found that the viscosity of the saliva

increased, and the secretion was more profuse. These and other tests showed that repeated frequent irritation of the salivary glands with food causes not only a diminution in the quantity of saliva, but also in its content of solid substances. Substances other than food had just the opposite results.

[*Journal American Medical Association*, October 9, 1915]

ORBITOPALPEBRAL EMPHYSEMA CAUSED BY PERFORATION OF A DENTAL CANAL

BY AARON BRAV, M.D., OPHTHALMOLOGIST TO THE JEWISH AND LEBANON HOSPITALS, PHILA.

Orbitopalpebral emphysema is not a very common condition, but when it is found it is always of traumatic origin. Ordinarily it is the result of a fracture of the nasal, lacrimal or ethmoidal bones. It may, however, occasionally be caused by the dentist during the process of drilling the dental canal, as can be seen from the case which I here report. The condition is practically harmless and requires no treatment beyond a pressure bandage.

The diagnosis of the condition is comparatively easy. There is a sudden swelling of the lid and adjacent tissues, with no signs of inflammation, no redness, no pain. The swelling does not pit on pressure, but quickly rebounds, and there is a peculiar crackling sensation felt by the palpating finger, which results from the movement of air bubbles under the fingers. There is no exophthalmos in this variety of emphysema. Exophthalmos is present in emphysema of the orbit, but not in emphysema of the lid. Properly speaking, this form of emphysema should be termed "palpebrofacial," for usually the face is involved in the edema in addition to the lids. None of the textbooks mention mechanical perforation of the dental canal as a possible cause of emphysema, therefore this case should be placed on record.

Miss L. came to me accompanied by her dentist, who gave me the following history. While drilling on the mesial root of the right upper first bicuspid tooth he felt as if his bur entered a vacuum. He then tried to explore the region with a broach, which went in for a considerable distance. During this operation the patient felt no pain except some pressure sensation, which she attributed to the pressure of the dentist's thumb on her cheek. When the broach was withdrawn her lids suddenly began to swell, so much so that the right eye was entirely covered by the swelling of the upper and lower lids. The swelling spread all the way down the face and even the neck. I saw the patient about an hour and a half after, and found the face swollen, the lids, very markedly edematous, covering the right eye. The lids, however, could easily be separated. The asymmetry of the face as a result of the unilateral swelling gave the

patient a hideous appearance. The skin of the lids and face was not tense and had no signs of inflammation. There was no pitting on pressure as the skin quickly rebounded. There was, however, marked crepitation under the finger's touch all over the lids and face and even down the region of the neck. Sneezing or blowing the nose had no influence on the swelling. My diagnosis was of course clear and easy: Palpebral emphysema caused by perforation of the dental canal into the antrum of Highmore and the upper bony roof of the antrum, through which the air must have gone into the subcutaneous tissues. This condition could easily be differentiated from a cellulitis by the sudden onset and the absence of inflammatory symptoms, such as redness and pain, and, of course, by the crackling sensation under the finger.

I applied a pressure bandage and the next day the swelling was considerably less. On the fifth day, while the swelling was practically all down, there was still present a slight crackling sensation indicating that not all the air had been absorbed. Seven days elapsed before all the symptoms disappeared. No other treatment was given except the pressure bandage for two days.

OCCUPATIONAL DEFORMITY OF THE TEETH

Kraus gives illustrations of a number of typical changes in the teeth induced by factors connected with the occupation. Candymaker's caries is one. The sugar dust in the air settles on the teeth and the acids generated from the sugar eat away the enamel below. There is thus a shallow pocket hollowed out in the upper part of the front of each front tooth. Workers with hydrochloric acid display a characteristic irregular necrosis of the teeth, after a stage of brownish spots on the teeth. It is a molecular necrosis, beginning at the cutting edge and working downward. The teeth thus are soon gnawed away by the process. Workers on metal may develop a dirty green coating on their teeth which long persists if the teeth are not well cared for. Shoemakers may wear away a groove in the edge of the front teeth where they hold the peg or nail. The pronounced arch in the upper front teeth of glassblowers is readily explained by the tube they use, and the small groove in the front teeth of tailors and seamstresses by their habit of biting off the thread. The illustrations given confirm Kraus' statement that the changes in the teeth described are typical enough to indicate the occupation.

[*The Lancet*, July 31, 1915]

TEETH-GRINDING AND ADENOIDS

Both in the East Indies and Utrecht Dr. Benjamins has noted the frequency with which the presence of adenoid vegetations in children

is associated with the habit of grinding the teeth during sleep at night. In each locality he has dealt with 250 cases of adenoids, and he gives the following figures based on the 500 cases, representing the percentages of the patients exhibiting the following signs of adenoids:—

Snoring	60 per cent.	Aprosexia	33 per cent.
Catarrh	46 " "	Enuresis	32 " "
Deafness	41 " "	Enlarged tonsils	25 " "
Teeth-grinding	34 " "		

Out of 325 of the cases 47 per cent. were mouth-breathers and 43 per cent. spoke with nasal voices. Among all his patients Dr. Benjamins counted 20 instances of epistaxis, 11 of bronchial asthma, and 8 of stammering. Operations for the removal of adenoids were performed on 55 patients with teethgrinding, and 42 were cured of the habit, 8 improved, and only 5 continued to grind their teeth as before. The habit may be acquired, as he points out, very early in life. Two of his teeth-grinding patients were aged 10 and 12 months respectively, each having four teeth in each jaw; the oldest patient was 21 years of age. The larger the adenoid growths in any case the greater is the probability that the patient will grind his teeth; the enlargement of the tonsils, contrariwise, seems to be of little influence here, as it occurred in only 42 out of 172 teeth-grinding patients. The ages of Dr. Benjamins' patients were as follows: 11 were under 3 years of age, 106 were aged 3 to 5 years, 219 were 6 to 10, 130 were 11 to 15, 26 were 16 to 20, and 9 were 21 years or more. He believed that patients with adenoid vegetations exhibit an increased reflex irritability, and that it is this, rather than anything in the nature of CO₂ poisoning, that makes them liable to nocturnal enuresis, teeth-grinding, and the like. In the case of teeth-grinding he assumes that the receptive field, or point of departure of the reflex lies in the mucous membrane of the naso-pharynx. The afferent path is through the glosso-pharyngeal nerve or the pharyngeal branches of the spheno-palatine ganglion. Neurons in the mid-brain presumably act as connecting links to set in action the motor nerve cells of the trigeminal nerve, particularly those supplying the pterygoid muscles.

[*British Medical Journal*, July 24, 1915]

ANTISEPTIC ACTION OF HYPOCHLOROUS ACID

Comparative tests were made by the authors to confirm the conclusion already arrived at by various investigators that hypochlorous acid is the most powerful antiseptic known. Practical methods of using this antiseptic have been devised. It can be used either as a gas or as a solution. The advantage of using the gas is that it will penetrate and will

act at a distance. Both the gas and the solution, while extremely potent against organisms and their spores, cause little or no harm to the tissues. The effect of this antiseptic is purely local; the decomposition products are devoid of toxicity, and there is therefore no danger to be apprehended from absorption. A flow of lymph is induced from the wound as part of the reaction of the tissues. Feter is rapidly eliminated. If pain and irritation occur they can easily be controlled by reducing the concentration of the antiseptic. The practical advantages of this antiseptic for field use are: (a) It can be used as dry powder and therefore obviates the difficulty of procuring water; (b) it can be introduced into the gauze pad of the first field dressing; (c) in cases in which water is available the same powder can be made up as a lotion for general use. The constituents of the powder are inexpensive and easily procured; and the preparation of the antiseptic is extremely simple.

THE DENTIST'S DILEMMA

As long as bacteriology was unknown, as long as dentistry was a mechanical art, practised by amiable and honest gentlemen, fit to hold authority over a misgoverned world, there was no need for articles like the present; for the painstaking if slow professors of the science filled teeth without looking at the clock and polished and cleaned with charitable severity. We say this who had the honor to know them. With much skill they carried into dentistry—*ars utens*—their ardent fiction that they were anatomists, that they gave a new and rapid soul to the tedious processes of physiology, and they dallied tenderly with a new superfluity, an ornamental evil, improvised by the long threatened specialist whose exhibitions are in the grand style of making showy "turn-outs" of our faces. Have our readers studied these achievements? What the dentist of a former age wished to believe, or yearned to welcome as novelty, was truth to them, the good of their patients; what their wholesome feelings either disliked or feared in the folly of turning worshipping women into martyrs, was a thing to be hurried out of existence. In their minds three of the most modern ideas played at mastery—health, cleanliness, beauty of the mouth. There was no end to the healing victories that these older practitioners intended to win for mankind. Few conventional scientists can lay claim to rank higher than Professor Miller, of the Universities of Berlin and Ann Arbor, the author of that advanced book, *Die Mikroorganismen der Mundhöhle*. There will be no great discoveries in dentistry until such another book is written—and then stereotyped in the dentist's mind.

Those of us who treasure comely and good actions in modern as well as old forms, must often wish for an answer to the question, which we pro-

posed as to the dentist's place in medicine, an answer expert in the handling, and studied and produced with authority. We shall have to wait to enjoy such an answer. The question itself occurred to us after an experience of a case in point. This case will be discussed fully in the *Journal* later; meanwhile we may mention that the particular error which was committed, and the particular confusion which arose were owing to the twofold fact—that the dentist employed had not studied medicine and that the doctors had not studied dentistry, briefly, both had inadequate ideas of the two sciences. The diagnosis was pernicious anemia and the cause—a pure assumption—was pyorrhea alveolaris. A blood examination disproved the one, and the history, the other. As a matter of fact, the case was nephritis and the patient soon after died in uremic coma.

The question here has been put clearly by a writer in the *British Dental Journal*, xxxiv, 1316, 1913, "Does the prescribing for general diseases lie within the province of the dental practitioner?" The author wisely replies in the affirmative—with important reservations; for the question is like what mathematicians call an asymptote, always approaching the curve of definition and never touching it. We speak, of course, of the efforts of the dentist in diseases caused by ill kept or defective teeth. The value of his assistance is undeniable, and we must deplore the want of ambition that prevents him from trying his hand at something bigger.

The truth is that great masses of the public, dentists, physicians, hygienists, and their disciples have been wasting their attention and exhausting their energies on *cries*, "wild and wondering cries," cries which are commonly started by honest and ignorant persons, but which propose reforms or public exhibitions that have not been thought out, that are impracticable, and in many instances have originated at superheated meetings. There is the extraordinary cry about the cause of pyorrhœa alveolaris. This particular cry reposes on very inadequate ideas. Different organisms have at different times taken the public fancy. These germs have high sounding but hollow names. When this huge, amorphous mass of bacteriological science is put away, something tangible like the discovery of two Russian physicians will satisfy a small circle. In pyorrhea alveolaris, there is a process called osteoporosis. Its genesis is various; it may originate in the bone of the socket, and in the course of time suppuration appears. Such a truth is what we want. We want to know exactly where to find the cause of constitutional dental diseases and where to seek the serviceable dentist. We do not suppose the search will be difficult if the educated dentists see the dilemma, and if the proposal is supported by the men of clear and powerful intellect in their profession.—*New York Medical Journal*.

[Abstracts from *British Medical Journal*, *Journal of the American Medical Association*, October 2, 1915]

STUDY OF ACTINOMYCOSIS

Cope urges that actinomycosis should always be considered in the diagnosis in the case of any newly formed subacute or chronic swelling in the region of the mouth, face, neck, thorax, or right side of the abdomen. Pus from every abscess should be examined as a routine practice. In any subacute or chronic lesion, the discharge needs to be examined repeatedly. Peribuccal infections comprise the majority of the cases. Here the organism enters most often through the mucous membrane of the alveolar margin near a carious or erupting tooth, or through the tooth socket into the jaw. The fungus is taken in with the food, and lodges round the teeth. The features of the hard peribuccal form are characteristic and can often be diagnosed long before pathologic investigation can give much help. Treatment by the administration of iodids, vaccine therapy, and surgical measures, promises the best results.

ABSCESS OF THE TONGUE; REPORT OF A CASE

DR. J. VERNON WHITE, DETROIT

The patient was 28 years old. He contracted tonsillitis, which followed the usual course. On the fourth day he began to feel pain in swallowing, radiating down the trachea and over the side of the neck, which was accompanied with chills and fever. These symptoms continued, but each day they developed greater intensity, causing a nervous irritability characteristic of exhaustion. This condition continued for ten days, without abatement. At this time I examined him for the first time. He was suffering continually from pain. The tongue was swollen and coated with a white mucous secretion. He could not protrude his tongue without causing intense pain. The tip of the tongue was apparently normal, but the posterior two thirds was very hard and hypertrophied, and occupied the whole buccal cavity. There was a thickening of a few submaxillary glands. Palpation revealed an intense induration on compression. There was no fluctuation noticeable. The case continued the same for three days, when on further palpation I discovered fluctuation. When fluctuation is well established, the important point is to determine where to make the incision to liberate the pus. I recommended that an incision be made below the tongue and a little to one side of the median line. This affords proper drainage, is not likely to become reinfected, and at the same time obviates the possibility of a tracheotomy. The bacteria present in this case were the staphylococcus and colon bacillus.

DEATHS

- BURBRIDGE, DR. HEREWARD, of Woodstock, Vermont, September 9th, at his home, of diabetes, aged 43.
- CLIFFORD, DR. F. L., of Racine, Wisconsin, September 12th, at the Washington Park golf course, Chicago, Illinois, of apoplexy, aged 53.
- FULLER, DR. DAVID J., formerly of New York City, August 18th, at his home in East Jaffrey, N. H. Aged 76.
- ELLIS, DR. I. W., At New Castle, Ind., September, 3, aged 85. He had practised in New Castle for fifty years.
- JOYCE, DR. FRANK P., of 218 E. Garfield Boulevard, Chicago, Illinois, September 1st, as a result of an accident.
- MYER, DR. W. LINDLEY, At Pontiac, Mich., August 31, of valvular heart trouble, following an attack of typhoid.
- NELSON, DR. CARL LUDWIG, of Seattle, Washington, September 5th, at his home, after an illness of five months following a paralytic stroke, aged 56.
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SOCIETY NOTES

DISTRICT OF COLUMBIA.

The next examination of applicants for license to practise in the District of Columbia, will be held at the George Washington University, Washington, January 3-6, 1916. Applications should be in the hands of the secretary two weeks before the date of the examination. Fee \$10.—STARR PARSONS, 1309 L Street, N. W., Washington, *Secretary*.

CONNECTICUT.

The Dental Commissioners of Connecticut will meet at Hartford, on November 18-20, 1915, to examine applicants for license to practice dentistry, and for the purpose of transacting any other business proper to come before them.—EDWARD EBERLE, 902 Main St., Hartford, Conn., *Secretary*.

INDIANA.

The next meeting of the Indiana State Board of Dental Examiners will be held at the State House, Indianapolis, commencing November 8th and continuing five or six days.—FRED J. PROW, Bloomington, Ind., *Secretary*.

NEW JERSEY.

The next meeting of the State Board of Registration and Examination in Dentistry will be held at the State House, Trenton, N. J., December 6-9, 1915.—JOHN C. FORSYTH, *Secretary*.

NEW YORK.

The Union meeting of the 5th, 6th, 7th, and 8th District Dental Societies will meet November 11-13, 1915, at Onondaga Hotel, Syracuse, N. Y.—A. C. BICKELHAUT, 515 Kirk Building, Syracuse, N. Y., *Chairman Exhibit Committee*. B. T. MASON, *Secretary*.

OHIO.

The next meeting of the Ohio State Dental Society will be held at Columbus, Ohio, December 7-10, 1915.—F. R. CHAPMAN, 30 Shultz Bldg., Columbus, O., *Secretary*.

VIRGINIA.

The Virginia State Dental Association will hold its next meeting at Richmond, Va., at Jefferson Hotel, November 4-6, 1915.—C. B. GIFFORD, Norfolk, Va., *Secretary*.

FUTURE EVENTS

November 8, 1915.—Illinois State Board of Dental Examiners, Illinois College of Dental Surgery, Chicago, Ill.—O. H. SEIFERT, Springfield, Ill., *Secretary*.

- November 9-11, 1915.—The Rhode Island Board of Dental Examiners.—W. B. ROGERS *Secretary*.
- November 11-13, 1915.—Union meeting of the 5th, 6th, 7th, and 8th District Dental Societies at the Onondaga Hotel, Syracuse, N. Y.—A. C. BICKELHAUT, 515 Kirk Building, Syracuse, N. Y., *Chairman Ex., Committee*. B. T. MASON, *Secretary*.
- November, 23-24, 1915.—The Northwestern District of the Iowa State Dental Society will hold its annual Clinic and Manufacturers Exhibit, Martin Hotel, Sioux City, Ia.—C. E. WESTWOOD, F. L. T. Bldg., Sioux City, *Secretary*.
- December 6, 1915.—Iowa State Board of Dental Examiners, Iowa City, Iowa.—J. A. WEST, Utica Bldg., Des Moines, Iowa. *Secretary*.
- December 6-9, 1915.—State Board of Registration and Examination in Dentistry, State House, Trenton, N. J.—JOHN C. FORSYTH, *Secretary*.
- December 7-9, 1915.—Ohio State Dental Society, Columbus, O.—F. R. CHAPMAN, *Secretary*.
- December 7-10, 1915.—The Ohio State Dental Society Semi-Centennial Meeting and Dedication of the American Miller Memorial at Columbus.
- December 9, 1915.—Examination of applicants to practise dentistry in California, San Francisco, Cal.—C. A. HERRICK, Whitney Bldg., *Secretary*.
- January 3-6, 1916.—Board of Dental Examiners for the District of Columbia, George Washington University, Washington.—STARR PARSONS, 1309 L Street, N. W., *Secretary*.
- January 13, 1916.—North Carolina State Board of Dental Examiners, Salisbury, N. C.—F. L. HUNT, Asheville, N. C., *Secretary*.
- January 25-27, 1916.—American Institute of Dental Teachers, Minneapolis, Minn.—J. F. BIDDLE, *Secretary-Treasurer*.
- February 16-18, 1916.—The tenth annual clinic, Manufacturers and Dealers Exhibit of the Marquette Dental Alumni Association, Milwaukee Auditorium, Milwaukee, Wis.—V. A. SMITH, *Secretary*.
- April 14-16, 1916.—West Virginia State Dental Association, Kanawha Hotel, Charleston, W. Va.
- May, 1916.—Indiana State Dental Association, Claypool Hotel, Indianapolis, Ind.—A. R. ROSS, *Secretary*.
- June, 1916.—Florida State Dental Society, Orlando, Fla.—M. C. IZLAR, *Corres. Secy*.

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My commission expires March 30, 1916.